CMT-SP55TC

SERVICE MANUAL

Ver.1.1 2001.03

AEP Model
UK Model
E Model

- CMT-SP55TC is composed of following models. As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR CMT-SP55TC

	AMPLIFIER	CD PLAYER	TAPE DECK	TUNER	SPEAKER SYSTEM
CMT-SP55TC	TA-SP55	CDP-SP55	TC-SP55	ST-SP55	SS-CSP55

PARTS LIST(ACCESSORIES & PACKING MATERIALS)

Part No.	Description
1-476-136-11	REMOTE COMMANDER (RM-SSP55)
1-501-374-11	ANTENNA, LOOP (AM)
1-501-804-11	ANTENNA (FM)(EXCEPT MY, SP)
1-501-659-41	ANTENNA (FM) (MY, SP)
1-792-924-11	CORD (WITH CONNECTOR)(20P)(30cm)
1-792-954-11	CORD, CONNECTION (19P)(40cm)
4-230-235-11	MANUAL, INSTRUCTION (ENGLISH)(AEP, UK, MY, SP)
4-230-235-21	MANUAL, INSTRUCTION (FRENCH, SPANISH)(AEP, MY, SP)
4-230-235-31	MANUAL, INSTRUCTION (GERMAN, DUTCH)(AEP)
4-230-235-41	MANUAL, INSTRUCTION (ITALIAN, PORTUGUESE)(AEP)
4-230-235-51	MANUAL, INSTRUCTION (DANISH, FINNISH, SWEDISH)(AED)
4-230-235-61	MANUAL, INSTRUCTION (CHINESE)(MY, SP)
4-230-235-71	MANUAL, INSTRUCTION (KOREAN)(KR)
4-981-643-21	COVER, BATTERY (FOR RM-SSP55)

•Abbreviation
AED : North European
MY : Malaysia
SP : Singapore
KR : Korea

MICRO HI-FI COMPONENT SYSTEM

9-929-541-12
2001C0900-1
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Sony Corporation
Audio Entertainment Group
General Engineering Dept.

SONY®

CDP-SP55

SERVICE MANUAL

AEP Model
UK Model
E Model

CDP-SP55 is the CD section in CMT-SP55MD or CMT-SP55TC.

This stereo system is equipped with the Dolby* B-type noise reduction system.
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡⊡ are trademarks of the Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM55C-K6BD38
Base Unit Type	BU-K6BD38
Optical Pick-up Type	KSM-213DCP/Z-NP

SPECIFICATIONS

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780 nm) Emission duration: continuous
Laser output	Max. 44.6 µW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Frequency response	20 Hz – 20 kHz
Output	
DIGITAL OPTICAL OUT:	Optical

General

Dimensions (w/h/d)	Approx. 202 × 75 × 290 mm
Mass	Approx. 1.5 kg

Design and specifications are subject to change without notice.

MINI Hi-Fi COMPONENT SYSTEM

SONY®

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NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

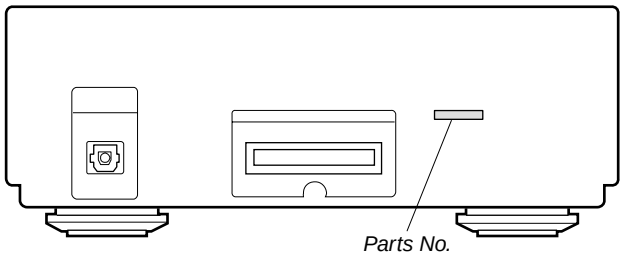
- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

— BACK PANEL —



MODEL	PARTS No.
AEP,UK,AED models	4-229-674-0☐
HK,MY,SP models	4-229-674-2☐
KR model	4-229-674-3☐

- Abbreviation
  AED : North European model
  HK : Hong Kong model
  MY : Malaysia model
  SP : Singapore model
  KR : Korea model

SECTION 1
SERVICING NOTE

This unit cannot be repaired by itself.
When repairing, connect the whole system except for the speaker.

CD Text Display

- This unit displays CD text.
  Text is displayed for the first 50 track only and will not be displayed from the 51st track onwards. Do not suspect a fault in this case.
  In some cases, some special characters will not be displayed and may be replaced by other characters. Do not suspect a fault in this case.

Cold Reset

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and ▶▶▷▷| buttons (CDP) together.
2. "COLD RESET" is displayed on the fluorescent indicator tube and reset is executed.

Hot Reset

- This mode reset the preset data kept in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and |◁◁◀◀ buttons (CDP) together.
2. Turn off the unit and reset is executed.

GC Test Mode

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and PLAY MODE buttons (CDP) together.
2. Fluorescent indicator tube are all turned on.
3. Press TUNING MODE button (ST) to enter the model destination indecation mode. "SP55 CE2" appears.
4. Every pressing of TUNING MODE button (ST) changes the display in the following order.
   MC Version → CD Version → ST Version → TC Version → TA Version → TM Version → model destination display.
5. Press DISPLAY button (ST) and the date appears as " 00615a "
   Every pressing of DISPLAY button (ST) changes the display in the Version display and model destination display.
6. Press TUNER/BAND button (ST) to enter the key check mode.
7. In the key check mode, the fluorescent indicator tube displays "Key 0 Vol 0". Each time a button is pressed, "Key" value increases. However, once a button is pressed, it is no longer taken into account.
   "Vol" Value increases like "1, 2, 3 ..." if rotating VOLUME knob (TA) in the clockwise direction, or decreases like "0, 9, 8 ..." if rotating in the counterclockwise diretion.
8. To exit from this mode, press three buttons in the same procedure as step 1, or disconnect the power cord.

Aging Mode

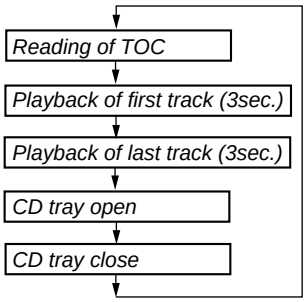
• Mode for repeating operations of the CD player and TC deck automatically.

When errors occur:
Aging stops and a message indicating that an error has occurred such as “CD MEC ERR” is displayed.
(For details of errors, refer to “Error History Display Mode”.)

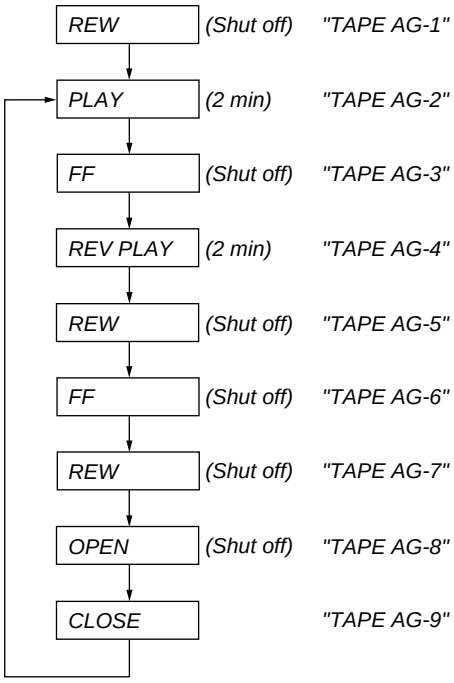
When no errors occur:
Aging is repeatedly performed.

Procedure:
1. Load any CD and a tape.
2. Select the function “ CD ” using the FUNCTION knob (TA).
3. While pressing the TUNING MODE button (ST) and ▷ button (CDP), press the I/⏻ button (TA).
4. “AGING” is displayed on the fluorescent display tube briefly.
5. Operations are performed in the following sequence during aging.
   Every pressing of DISPLAY button (ST) changes the display in the CD display and TAPE display.

CD :



Cassette :



6. To end aging, execute the cold reset.

Error History Display Mode

Mode for checking the history of errors which have occurred in the CD player.
Execute this mode after ending the aging mode.

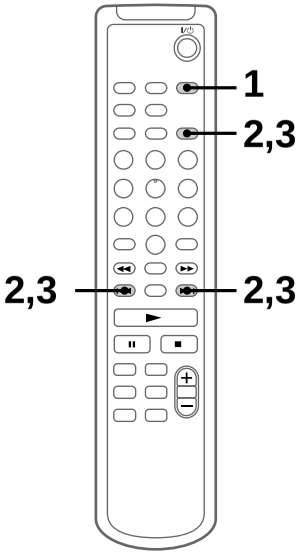
Procedure:
1. Select the function “ CD ” using the FUNCTION knob (TA).
2. While pressing the TUNING MODE button (ST) and ▯▯ button (CDP), press the I/⏻ button (TA).
3. “EMC@@EDC**” id displayed.
   @@ : Number of mechanism errors (Last 3 errors)
   ** : Number of errors (NO DISC ERROR) which occurred after chucking (Last 3 errors)
4. To end, press the I/⏻ button (TA) and turn OFF the power.

Note: To erase the error history, perform cold reset.
(While pressing the TUNING MODE button (ST) and ▶▶▷▷▮ button (CDP), press the I/⏻ button (TA).)

Step 2: Setting the time

You must set the time beforehand to use the timer functions.
The clock is on a 24-hour system for the European model, and a 12-hour system for other models. The 24-hour system is used for illustration purposes.

Set the time before turning on the system.



1 Press CLOCK/TIMER SET while the system is off.
The hour indication flashes.

2 Press ⏮ or ⏭ to set the hour, then press ENTER/YES.
The minute indication flashes.

3 Press ⏮ or ⏭ to set the minute, then press ENTER/YES.
The clock starts.

If you made a mistake

Start over from step 1.

To change the preset time

You can change the preset time while the system is on.

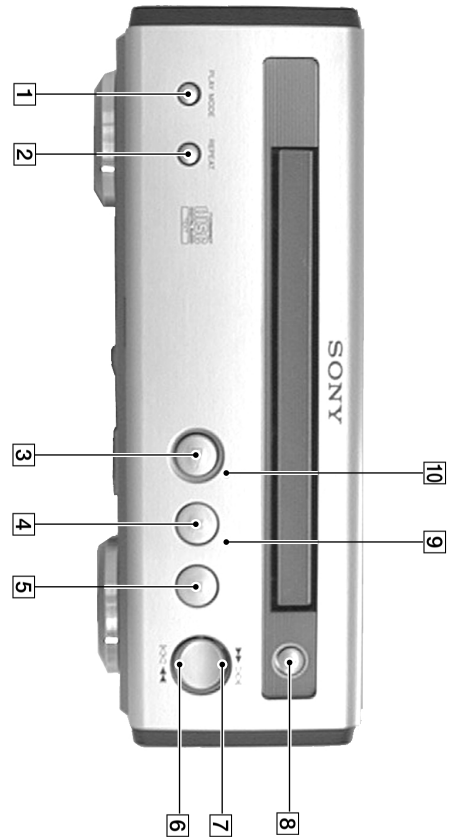
1 Press CLOCK/TIMER SET.
2 Press ⏮ or ⏭ repeatedly until "SET CLOCK" appears, then press ENTER/YES.
3 Repeat steps 2 and 3.

Tips

- The built-in clock shows the time in the display while the system is off. If you press DISPLAY at this time, the display back light lights up, making the clock easier to see.
- The upper dot of the colon flashes for the first 30 seconds, and the lower dot flashes for the last 30 seconds of each minute.

SECTION 2
GENERAL

This section is extracted from instruction manual.



1 PLAY MODE button
2 REPEAT button
3 ▽ button
4 ▯▯ button
5 □ button
6 ⏮△▲⏭ button
7 ▼▽▷⏭ button
8 ⏭ button
9 ▯▯ indicator
10 ▽ indicator

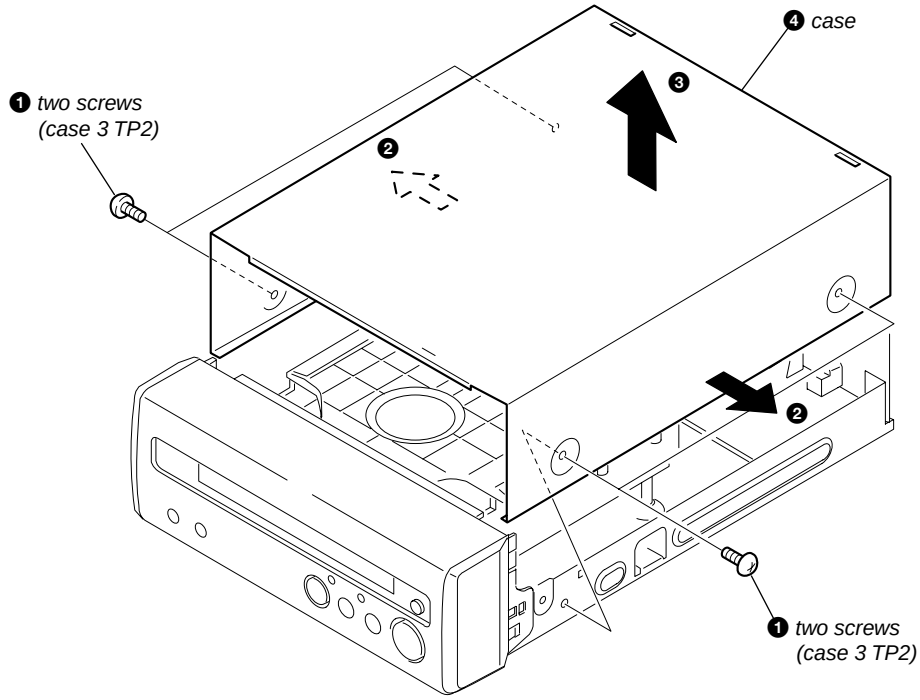
SECTION 3
DISASSEMBLY

Set → Case → Front Panel Assy → Main Board (Page 8)

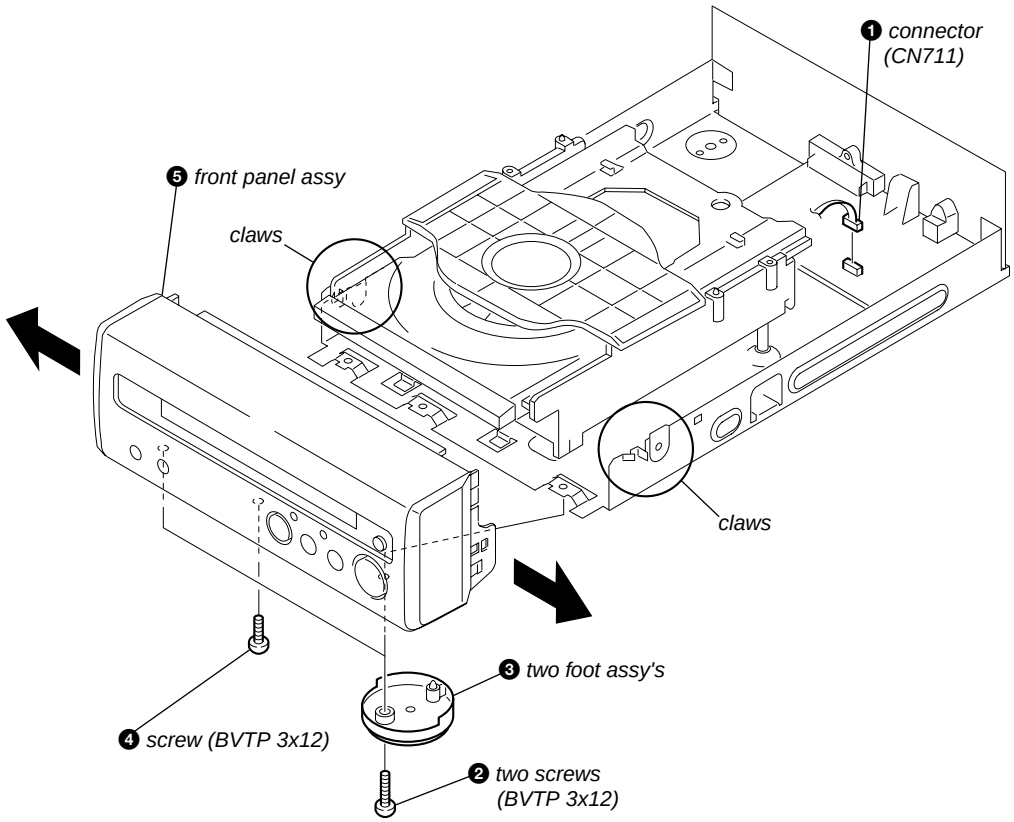
Front Panel Assy → CD Mechanism Deck (CDM55C-K6BD38) (Page 8) → Cam, Gear (Page 9)

Front Panel Assy → Holder Assy (Page 9) → Optical pick-up (Page 10) → BD Board (Page 10)

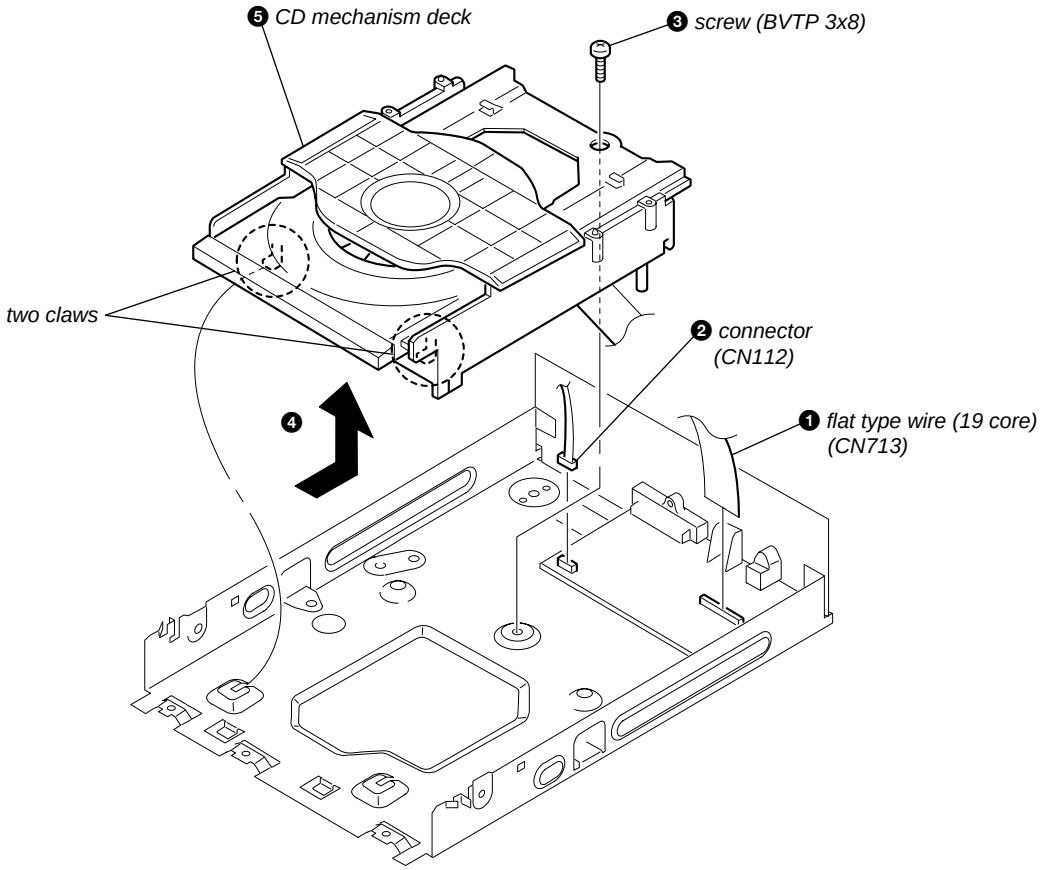
3-1. CASE



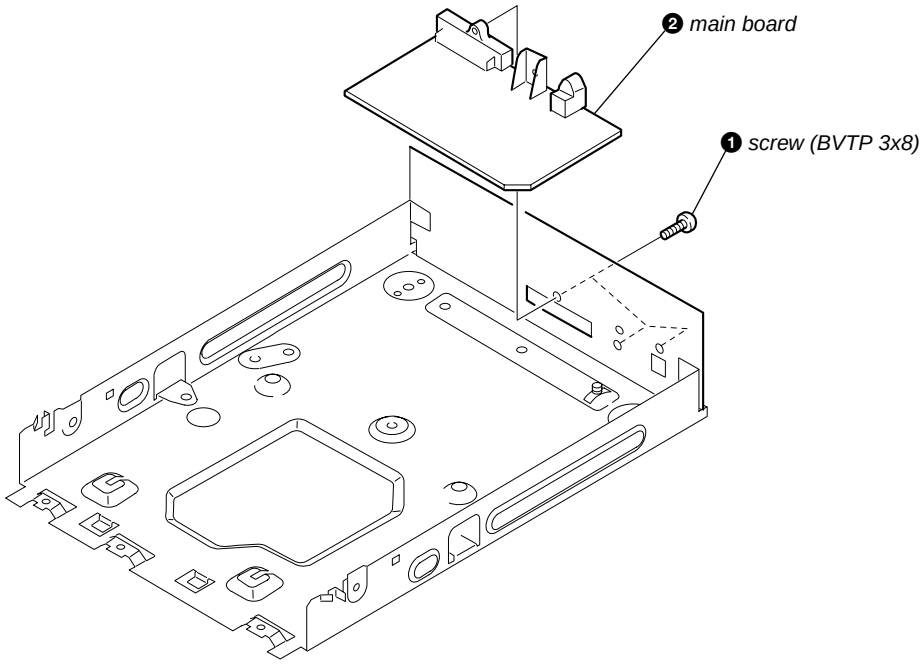
3-2. FRONT PANEL ASSY



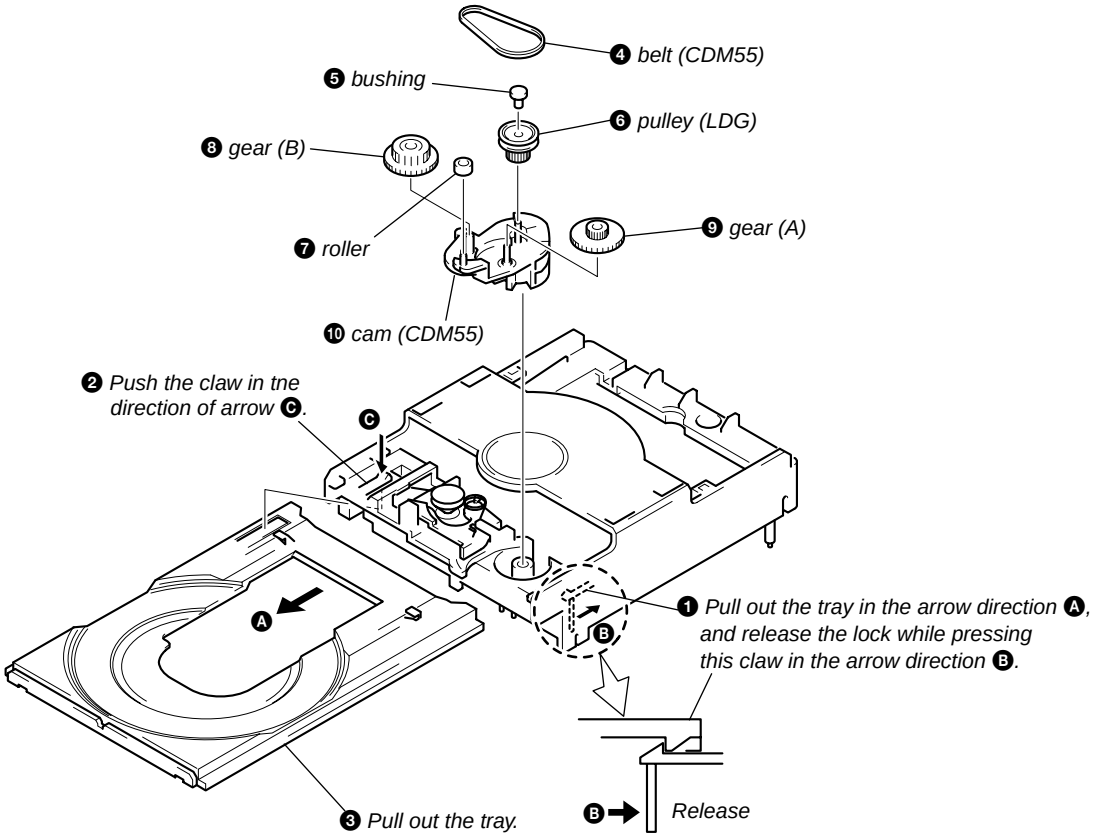
3-3. CD MECHANISM DECK (CDM55C-K6BD38)



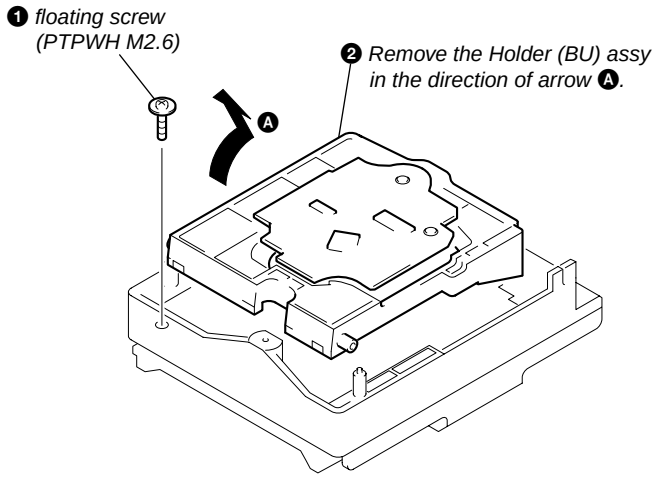
3-4. MAIN BOARD



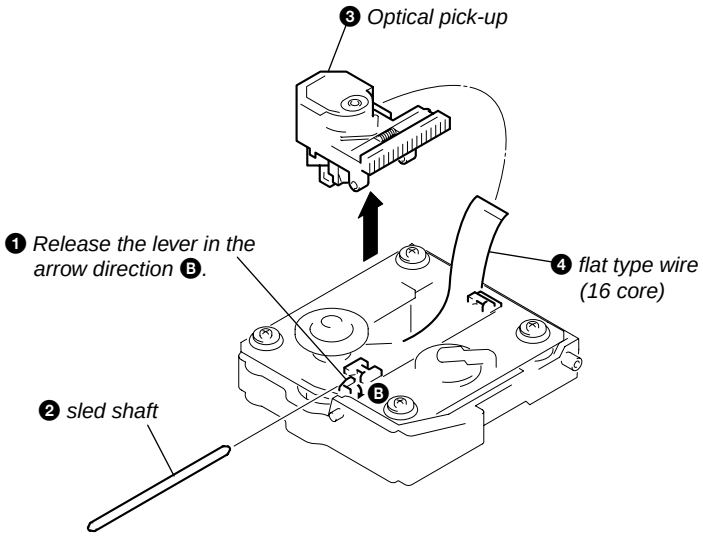
3-5. CAM, GEAR


❹ belt (CDM55)
❺ bushing
❻ pulley (LDG)
❽ gear (B)
❾ gear (A)
❼ roller
❿ cam (CDM55)
❷ Push the claw in tne direction of arrow Ⓒ.
Ⓒ
Ⓐ
Ⓑ
❶ Pull out the tray in the arrow direction Ⓐ, and release the lock while pressing this claw in the arrow direction Ⓑ.
❸ Pull out the tray.
Ⓑ Release

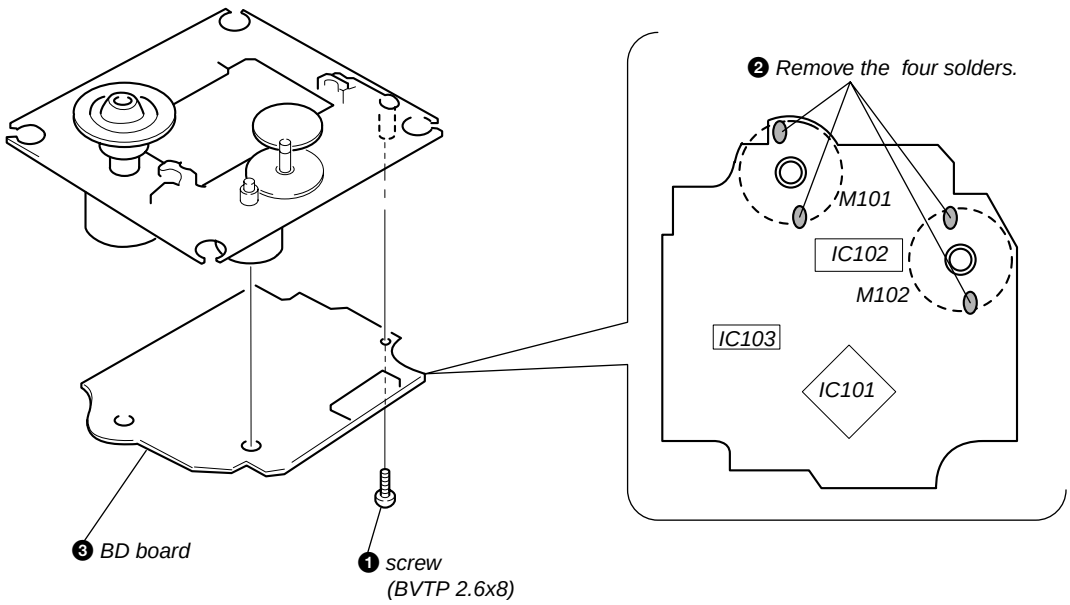
3-6. HOLDER ASSY



3-7. OPTICAL PICK-UP



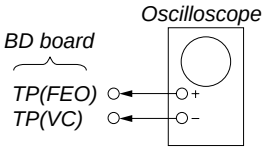
3-8. BD BOARD



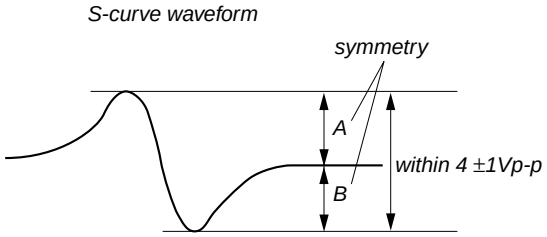
SECTION 4
ELECTRICAL ADJUSTMENT

Note :
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check



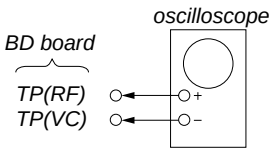
Procedure :
1. Connect oscilloscope to TP (FEO).
2. Connect between TP (FEI) and TP (VC) by lead wire.
3. Connect between TP (AGCCON) and TP (DGND) by lead wire.
4. Press the I/⏻ button (TA).
5. Load a disc (YEDS-18) and actuate the focus search. (In consequence of open and close the disc tray, actuate the focus search)
6. Confirm that the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 4 ±1 Vp-p.



7. After check, remove the lead wire connected in step 2 and 3.

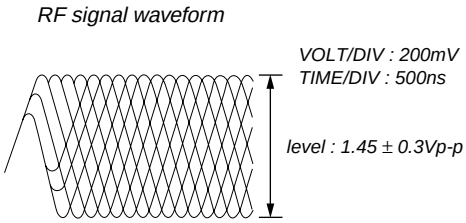
Note :
- Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

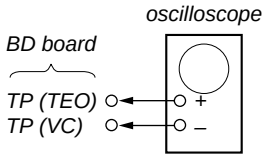


Procedure :
1. Connect oscilloscope to TP (RF).
2. Connect between TP (AGCCON) and TP (DGND) by lead wire.
3. Press the I/⏻ button (TA).
4. Load a disc (YEDS-18) and playback.
5. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.
6. After check, remove the lead wire connected in step 2.

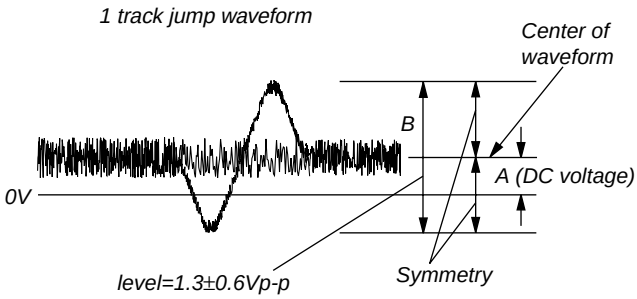
Note: Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.



E-F Balance (1 Track jump) Check



Procedure:
1. Connect oscilloscope to TP (TEO) and TP (VC) board.
2. Press the I/⏻ button (TA).
3. Load a disc (YEDS-18) and playback the number five track.
4. Press the ▷ button. (Becomes the 1track jump mode.)
5. Confirm that the level B and A (DC voltage) on the oscilloscope waveform.

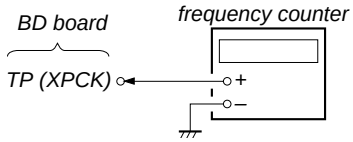


Specification level: $\frac{A}{B}$ x 100=less than ±22%

6. After check, remove the lead wire connected in step 1.

RF PLL Free-run Frequency

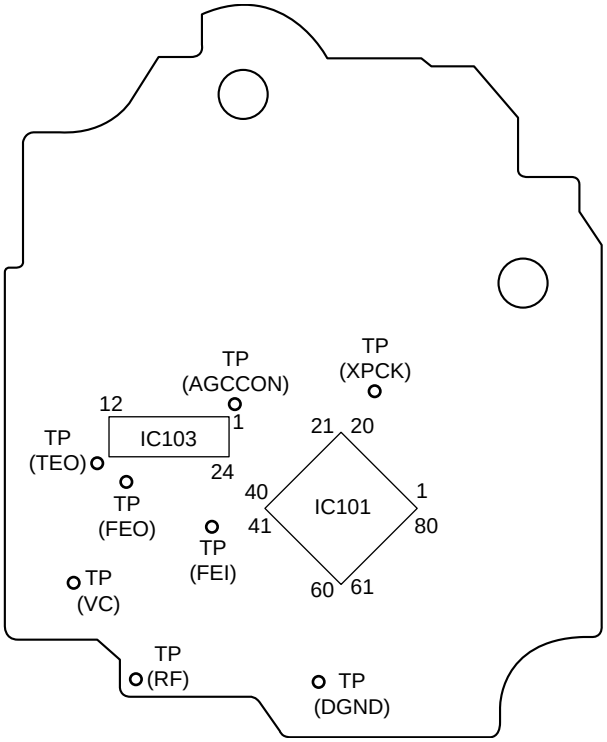
Procedure :
1. Connect frequency counter to test point (XPCK) with lead wire.



2. Press the I/⏻ button (TA).
3. Put the disc (YEDS-18) in to play the number five track. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location:

[BD BOARD] (Conductor Side)



SECTIOIN 5
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B– : B– Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : CD (ANALOG)
  : CD (DIGITAL)
- Abbreviation
  AED : North European model
  HK : Hong Kong model
  MY : Malaysia model
  SP : Singapore model
  KR : Korea model

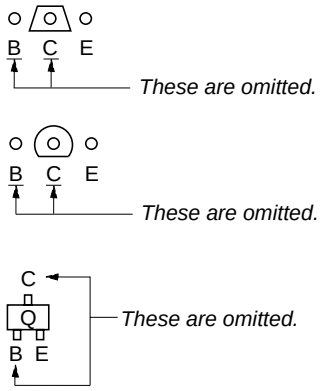
For printed wiring boards.

Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Pattern from the side which enables seeing.

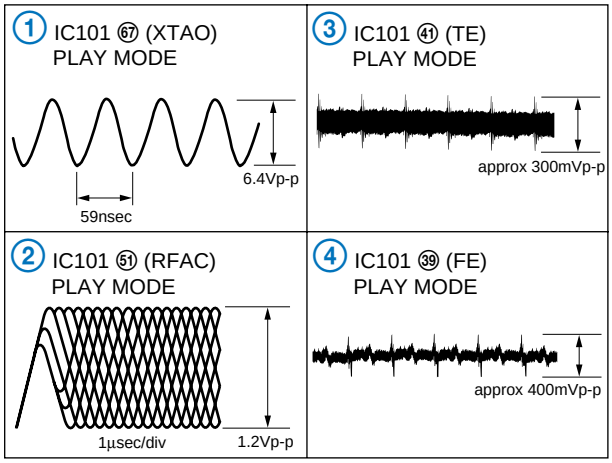
(The other layers' patterns are not indicated.)

- **Indication of transistor**

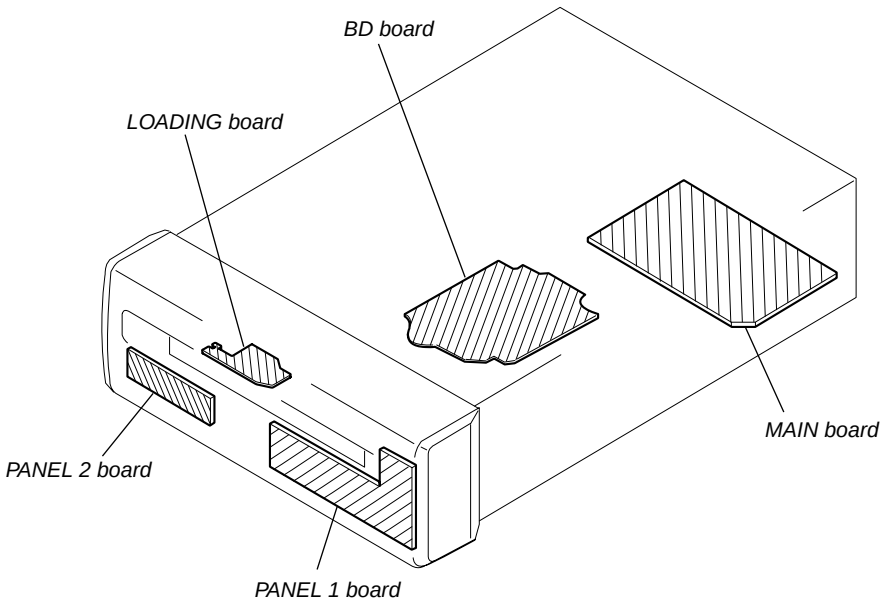


• **WAVEFORMS**

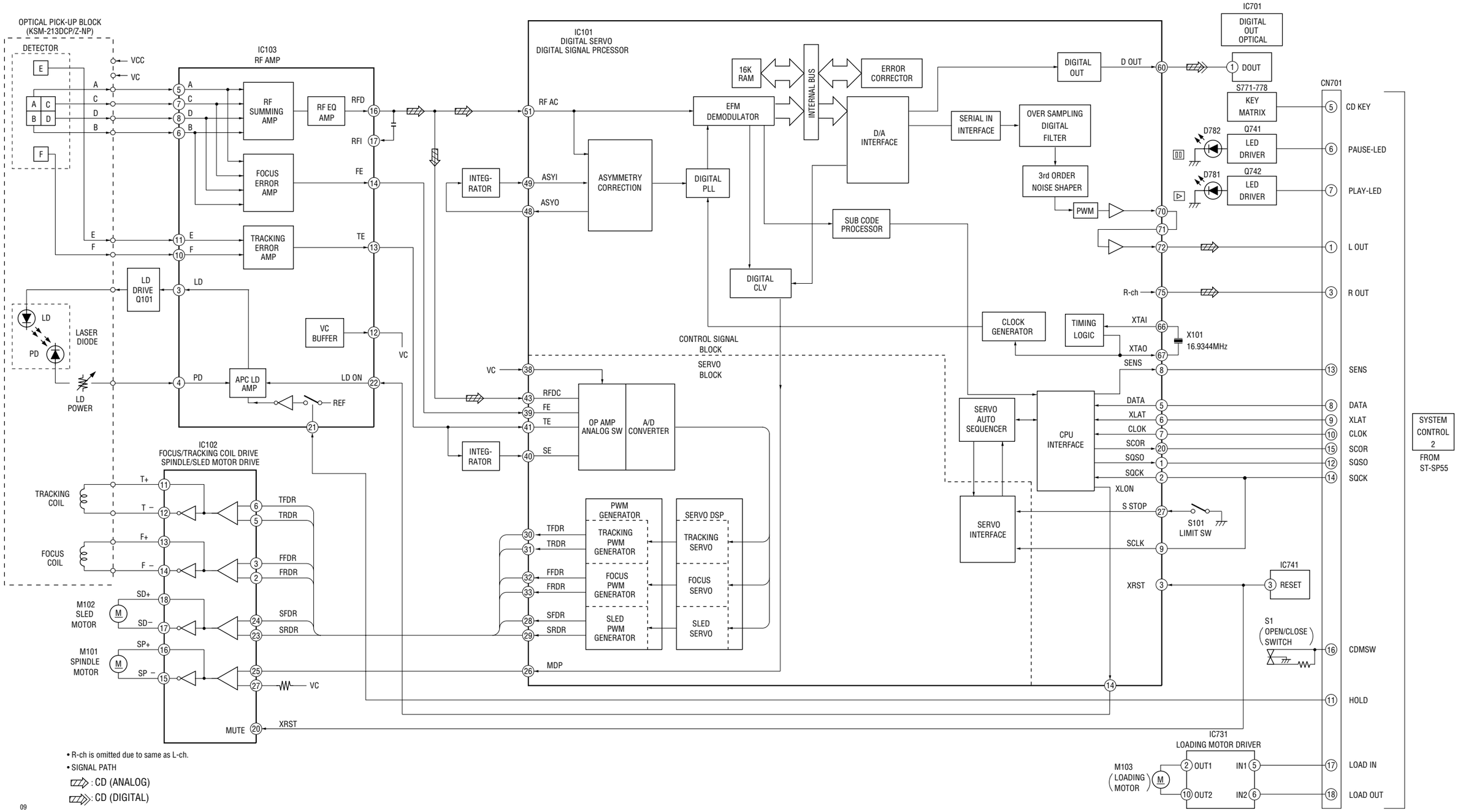
– BD BOARD –



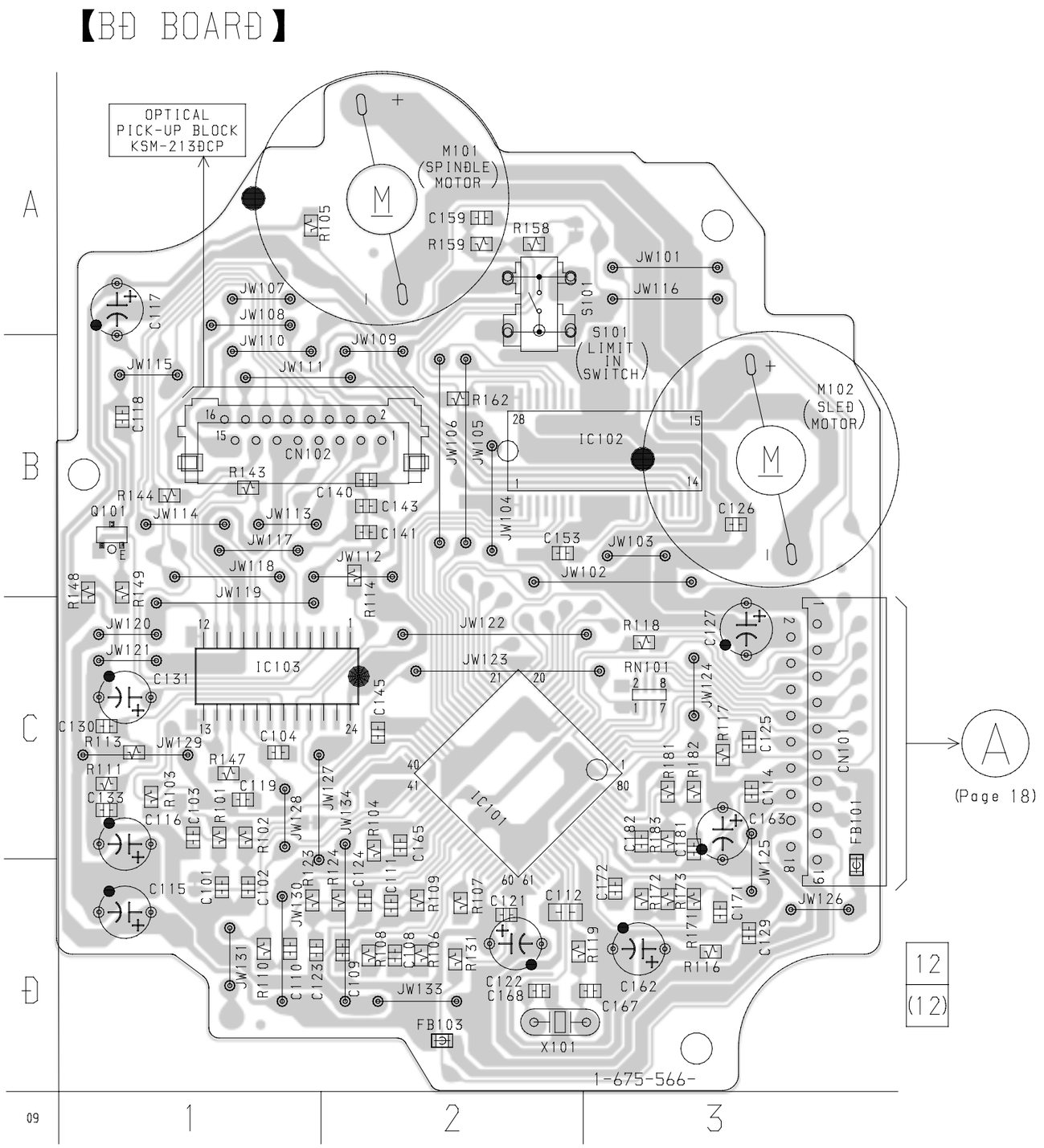
5-1. CIRCUIT BOARDS LOCATION



5-2. BLOCK DIAGRAM

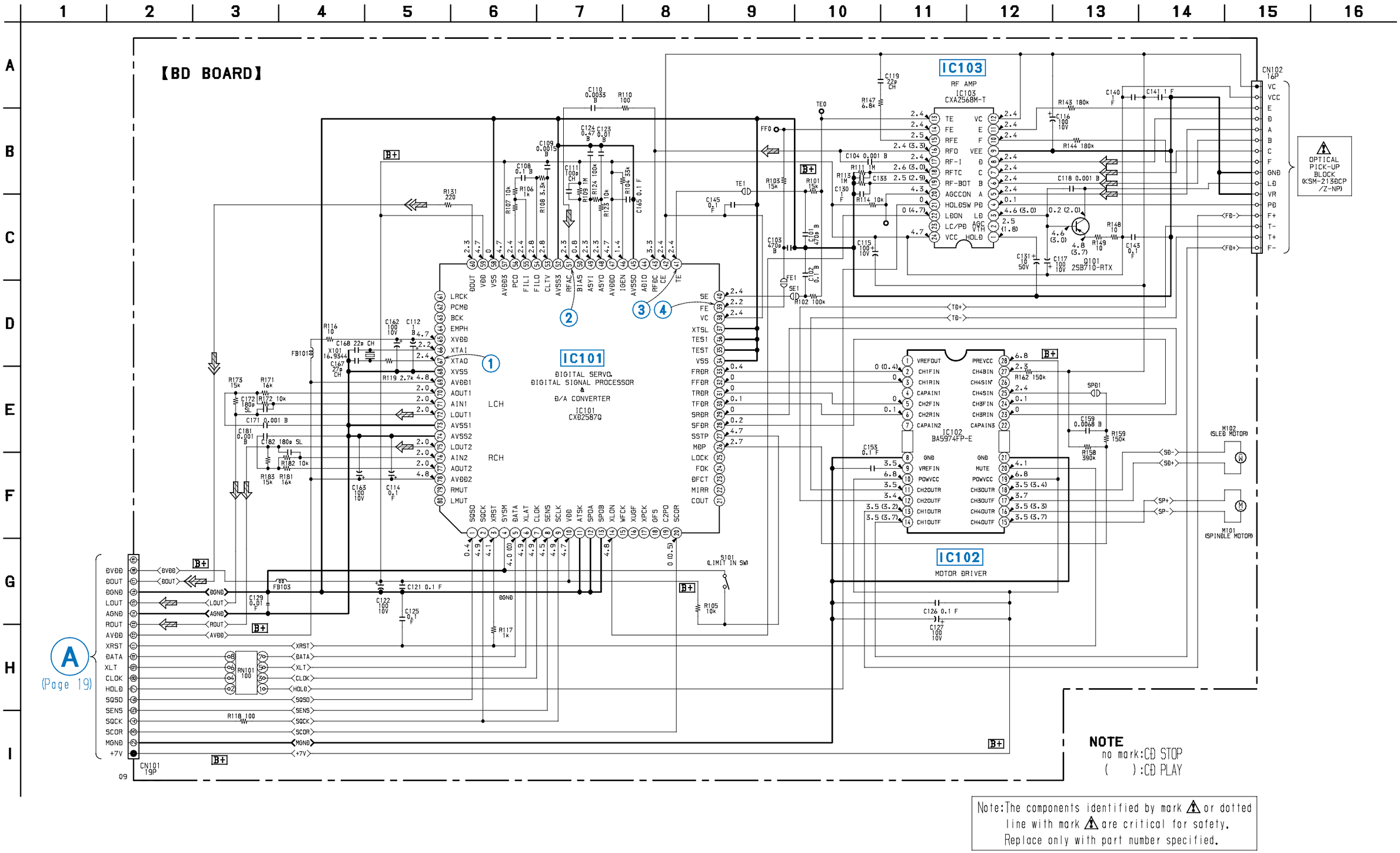


5-3. PRINTED WIRING BOARD – BD SECTION – • See page 14 for Circuit Boards Location.

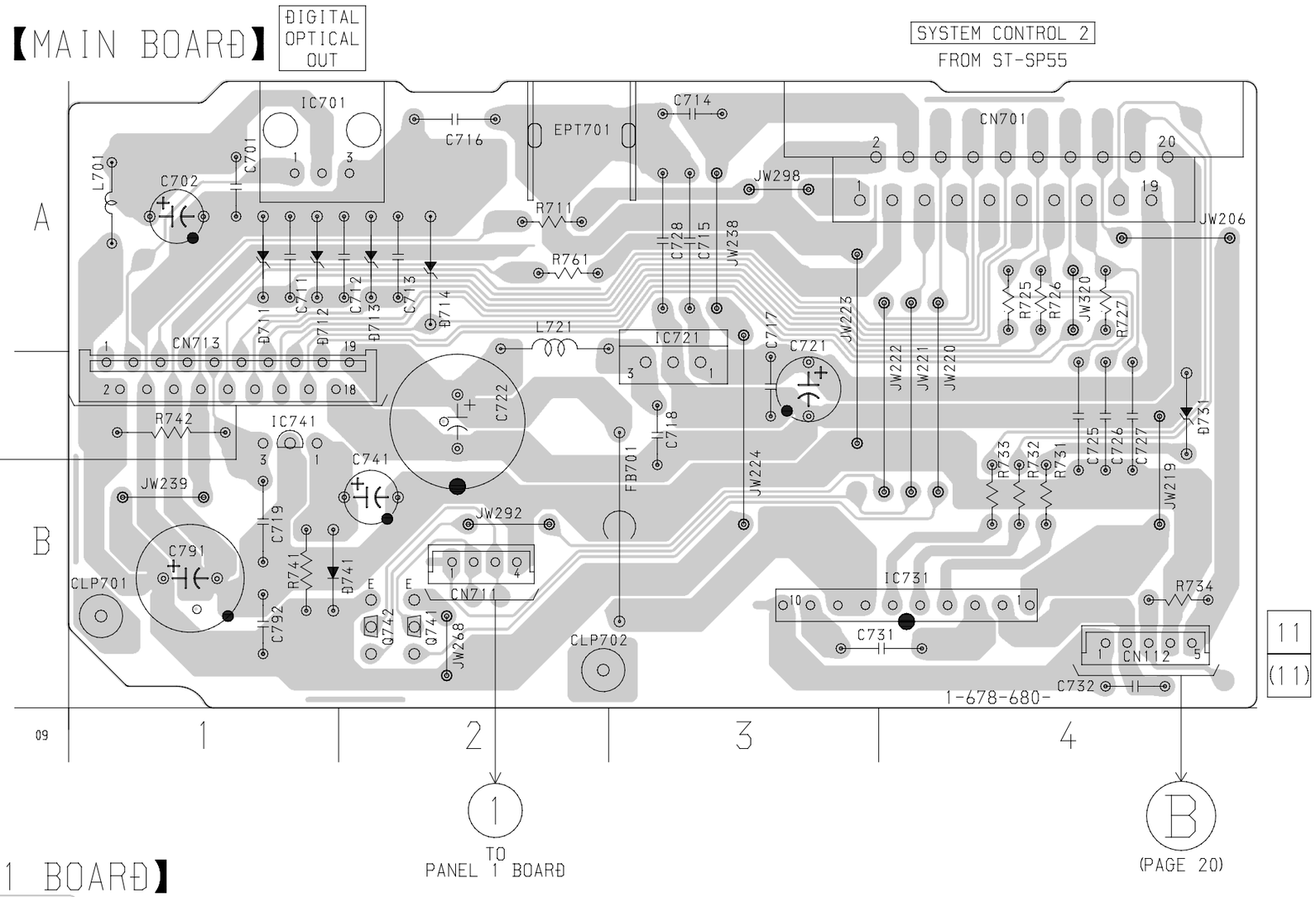


There are a few cases that the part isn't mounted in model is printed on diagram.

5-4. SCHEMATIC DIAGRAM – BD SECTION – • See page 14 for Waveforms. • See page 20 for IC Block Diagrams.



5-5. PRINTED WIRING BOARD – MAIN SECTION – • See page 14 for Circuit Boards Location.

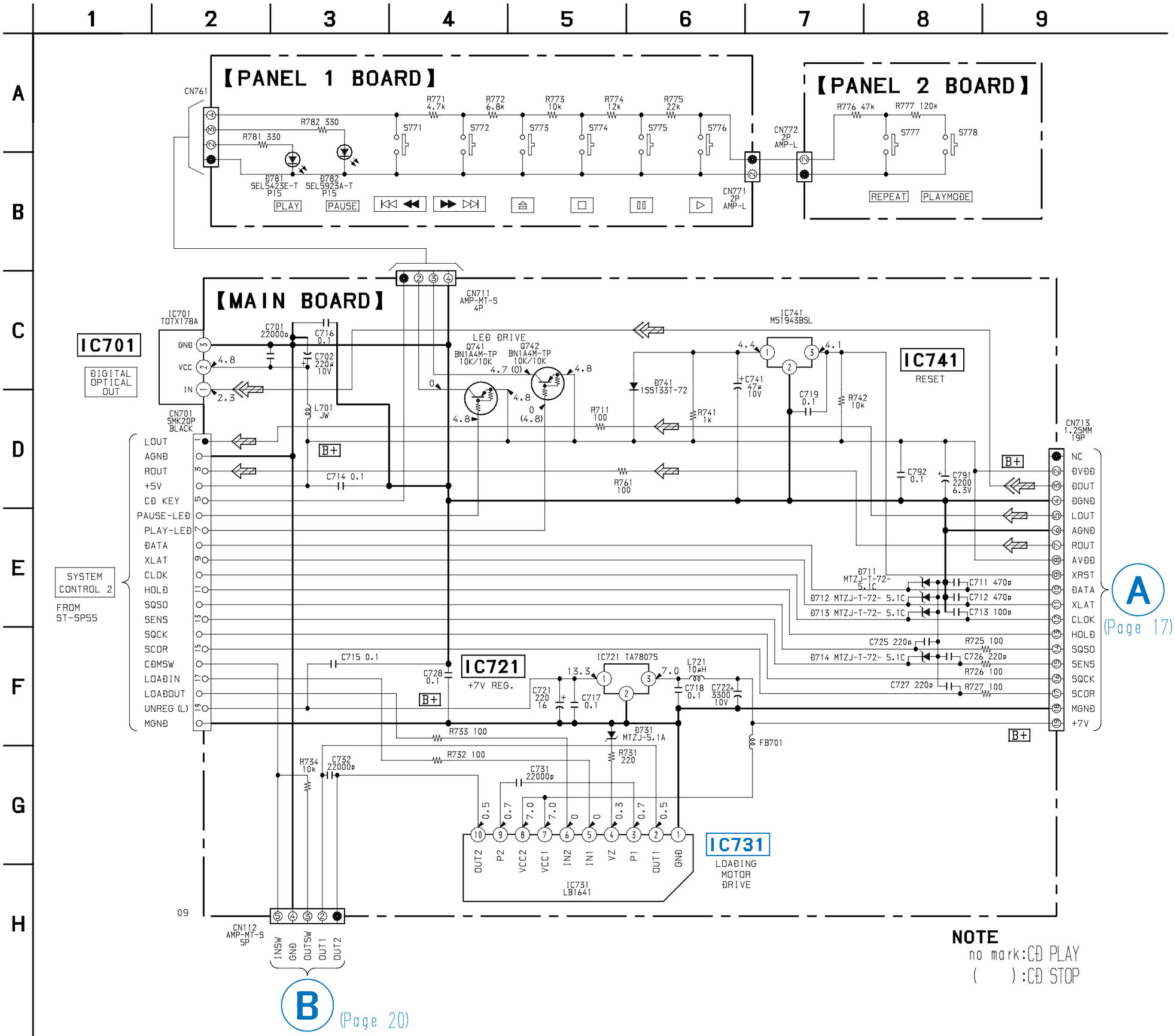


- **Semiconductor Location**

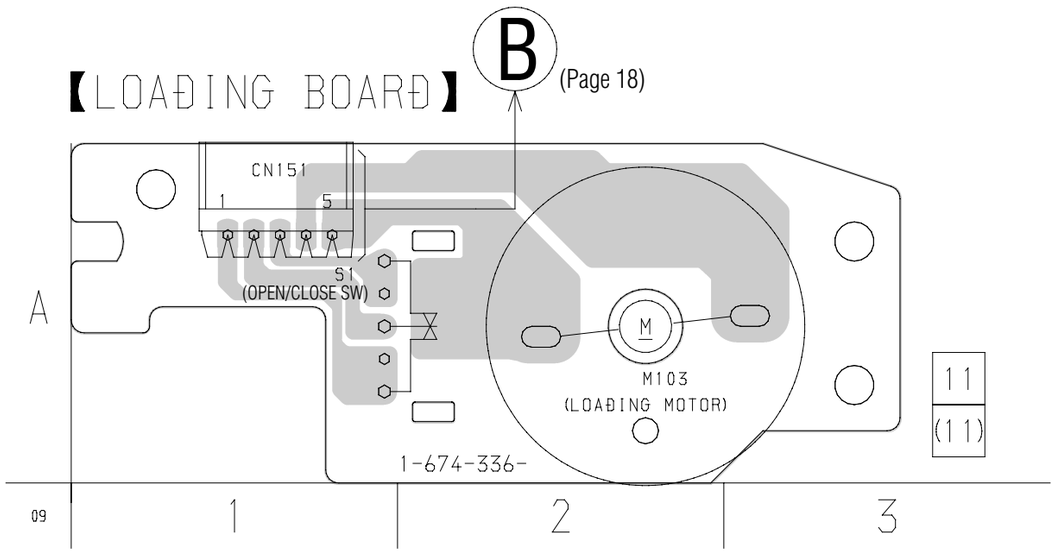
Ref. No.	Location
D711	A-1
D712	A-1
D713	A-2
D714	A-2
D731	B-4
D741	B-1
IC701	A-1
IC721	A-3
IC731	B-4
IC741	B-1
Q741	B-2
Q742	B-2

There are a few cases that the part isn't mounted in model is printed on diagram.

5-6. SCHEMATIC DIAGRAM – MAIN SECTION – • See page 21 for IC Block Diagrams.

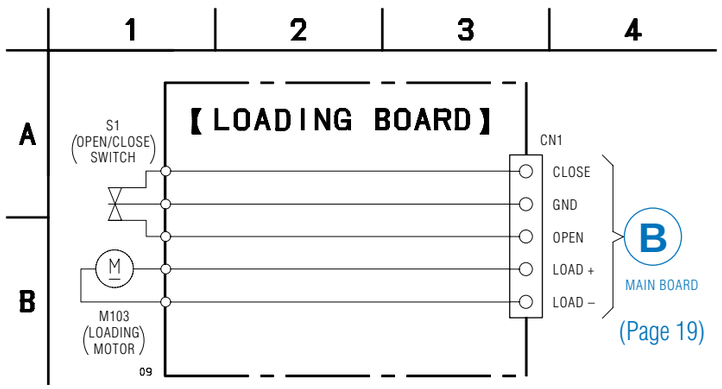


5-7. PRINTED WIRING BOARD – LOADING SECTION –



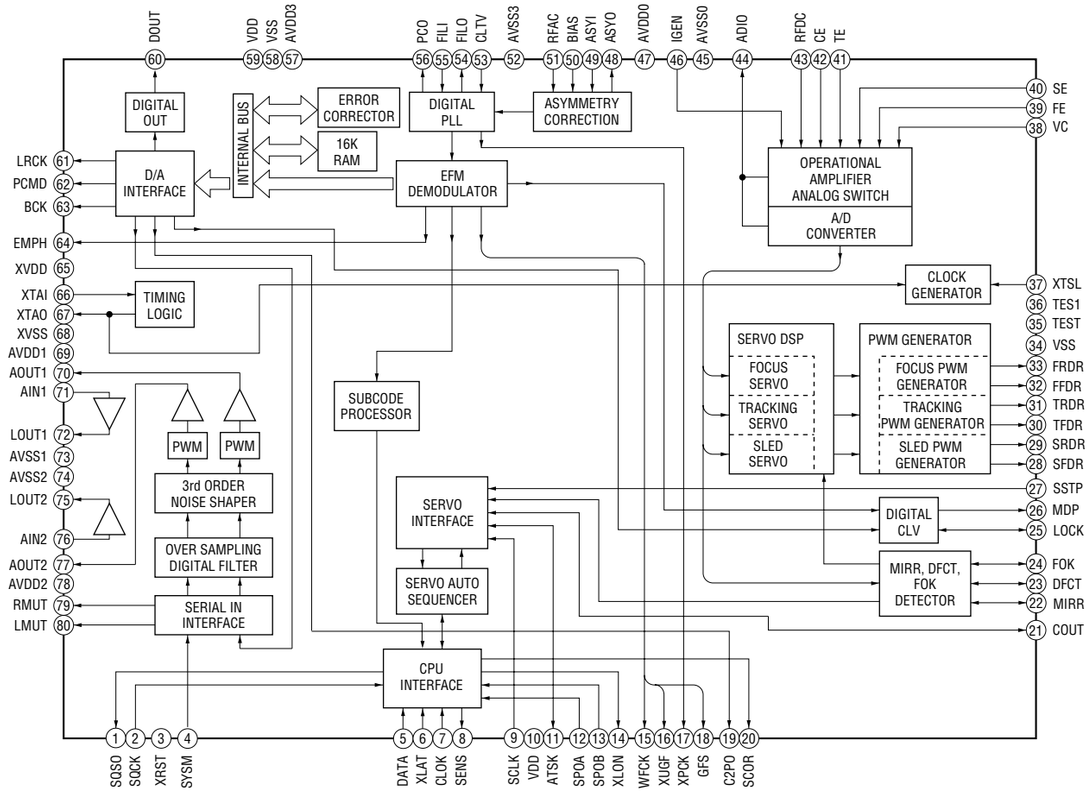
There are a few cases that the part isn't mounted in model is printed on diagram.

5-8. SCHEMATIC DIAGRAM – LOADING SECTION –

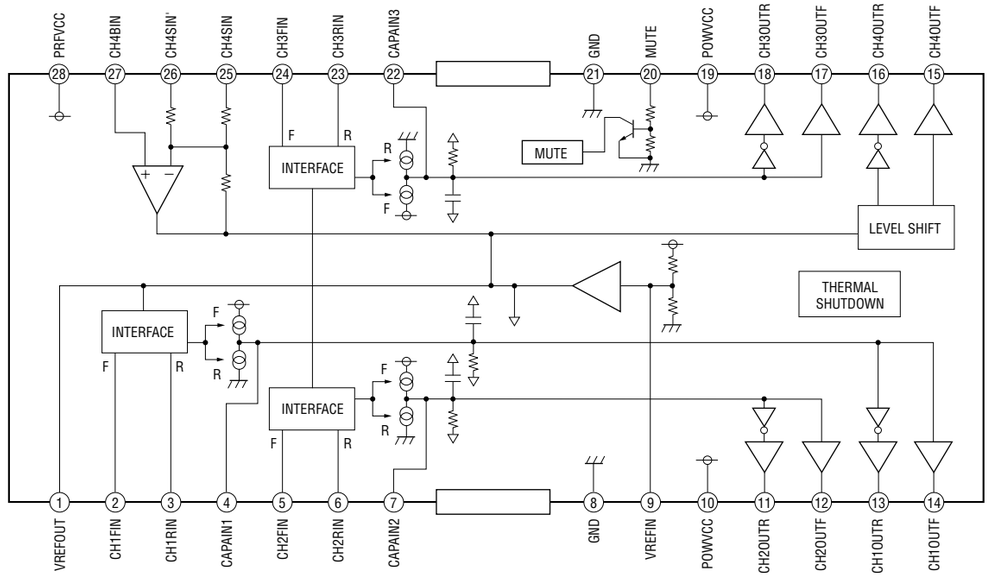


5-9. IC BLOCK DIAGRAM

IC101 CXD2587Q (BD BOARD)

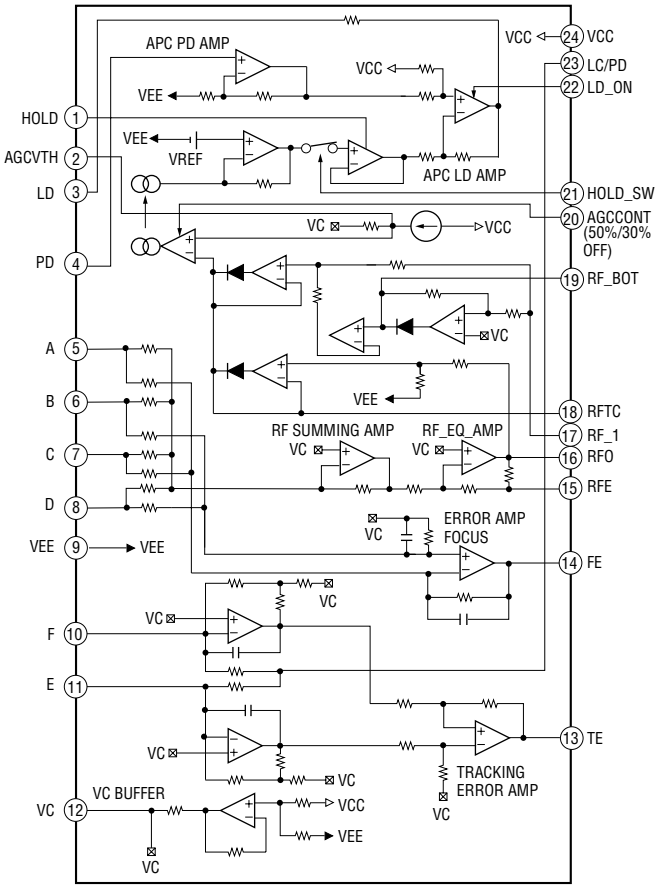


IC102 BA5974FP-E2 (BD BOARD)

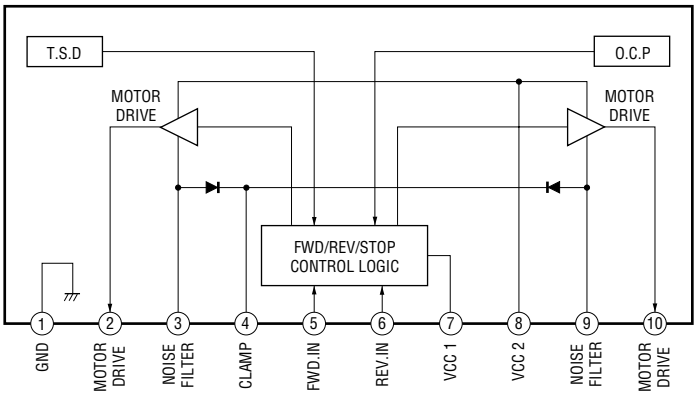


20

IC103 CXA2568M-T6 (BD BOARD)



IC731 LB1641 (MAIN BOARD)



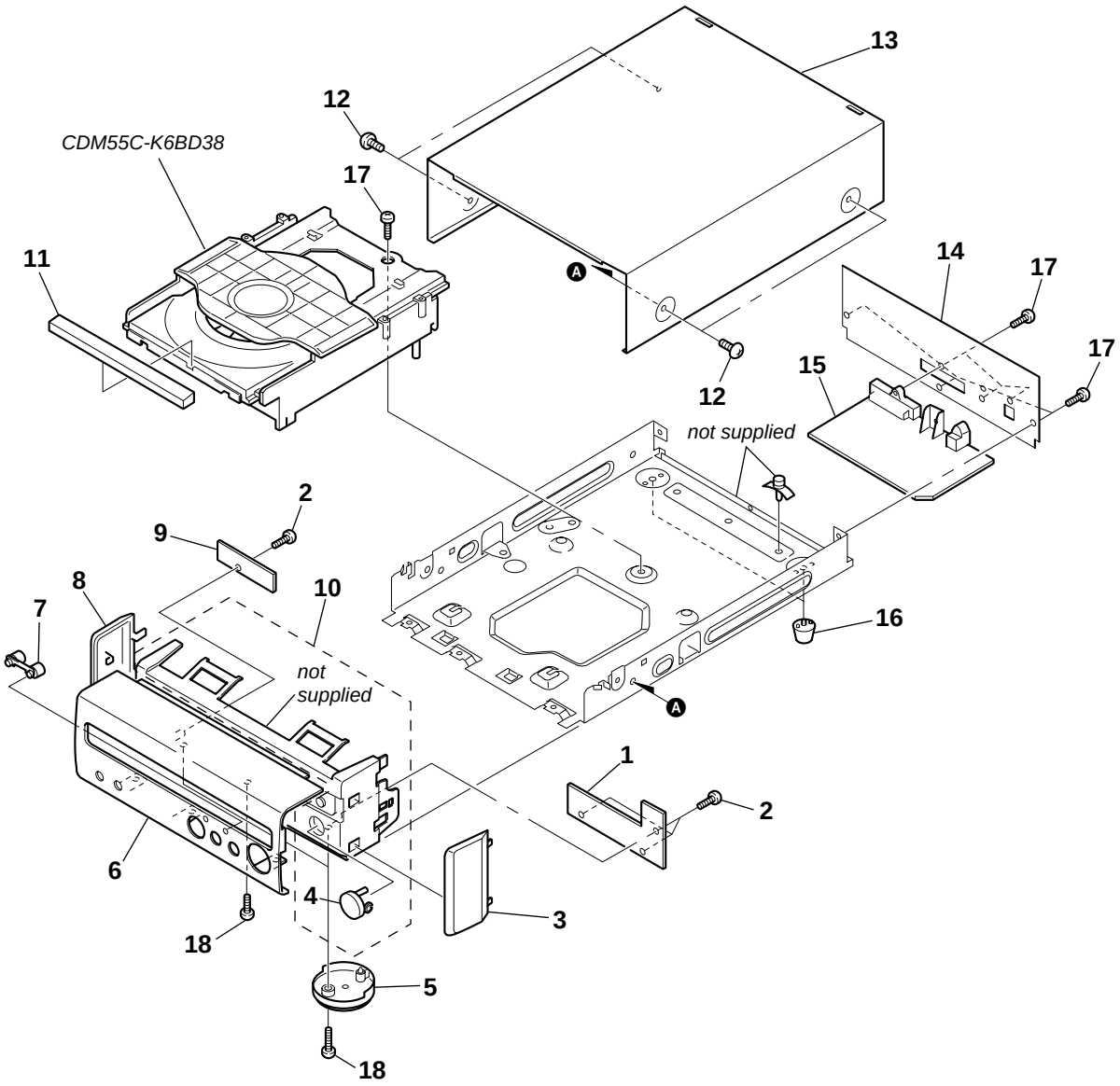
SECTION 6
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  AED : North European model
  HK : Hong Kong model
  MY : Malaysia model
  SP : Singapore model
  KR : Korea model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

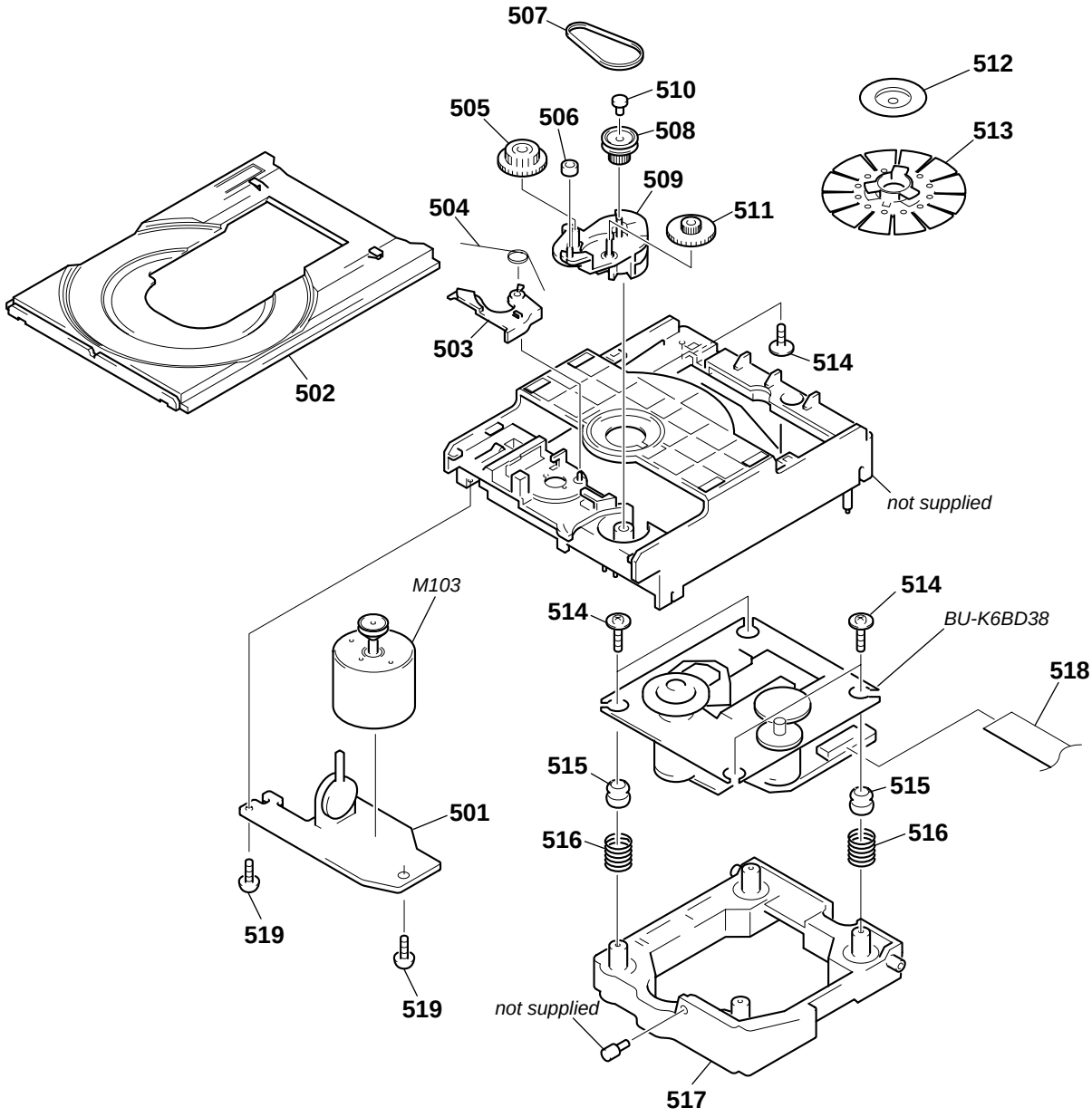
6-1. CASE AND FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks
1	1-678-681-11	PANEL1 BOARD	
2	4-951-620-01	SCREW (2.6X8), +BVTP	
3	4-229-683-01	PLATE (R), SIDE	
4	4-229-678-01	BUTTON (U/D)	
5	X-4953-027-1	FOOT ASSY	
6	4-229-667-01	PANEL (CD), FRONT	
7	4-229-652-11	INDICATOR (PLAY)	
8	4-229-684-01	PLATE (L), SIDE	
9	1-678-682-11	PANEL2 BOARD	
10	X-4953-024-1	PANEL ASSY (CD), SUB	

Ref. No.	Part No.	Description	Remarks
11	4-229-668-01	PANEL, LOADING	
12	3-363-099-51	SCREW (CASE 3 TP2)	
13	4-229-687-11	CASE	
14	4-229-674-01	PANEL, BACK (AEP,UK,AED)	
14	4-229-674-21	PANEL, BACK (MY,SP,HK)	
14	4-229-674-31	PANEL, BACK (KR)	
15	1-678-680-11	MAIN BOARD	
16	4-965-822-01	FOOT	
17	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
18	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	

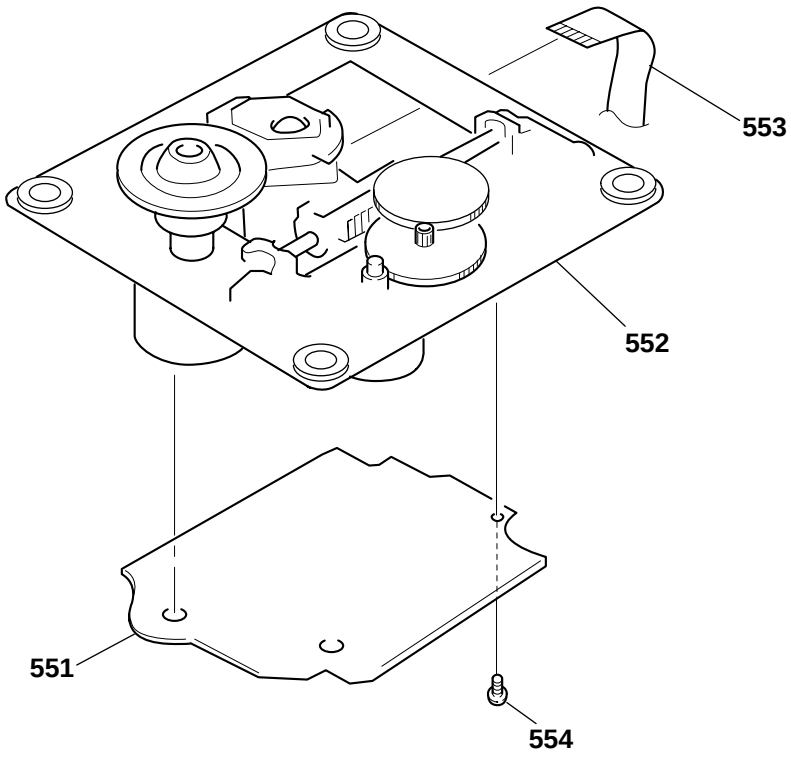
6-2. CD MECHANISM DECK SECTION (CDM55C-K6BD38)



Ref. No.	Part No.	Description	Remarks
501	1-674-336-21	LOADING BOARD	
502	4-224-894-11	TRAY (CDM55D)	
503	4-220-229-01	LEVER (SW)	
504	4-220-239-11	SPRING, TORSION	
505	4-220-237-01	GEAR (A)	
506	4-221-815-01	ROLLER	
507	4-221-816-11	BELT (CDM55)	
508	4-220-233-01	CAM (CDM55)	
509	4-220-234-01	PULLEY (LDG)	
510	4-227-598-01	SPACER (55)	

Ref. No.	Part No.	Description	Remarks
511	4-220-238-01	GEAR (B)	
512	1-452-925-21	MAGNET ASSY	
513	X-4953-195-1	PULLEY (AT) ASSY	
514	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
515	4-227-679-01	INSULATOR (213)	
516	4-229-806-01	SPRING (213), COMPRESSION	
517	X-4953-169-1	HOLDER (BU) ASSY	
518	1-590-578-11	WIRE (FLAT TYPE) (19 CORE)	
519	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
M103	A-4672-984-A	MOTOR (LD) ASSY (LOADING)	

6-3. BASE UNIT SECTION (BU-K6BD38)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
551	A-4724-934-A	BD BOARD, COMPLETE	
⚠552	8-820-116-01	OPTICAL PICK-UP KSM-213DCP/Z-NP	
553	1-792-024-11	WIRE (FLAT TYPE) (16 CORE)	
554	4-951-620-01	SCREW (2.6X8), +BVTP	

SECTION 7
ELECTRICAL PARTS LIST

BD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... , uPB... , µPB... , uPC... , µPC... , uPD..., µPD...

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks
	A-4724-934-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C112	1-107-682-11	CERAMIC CHIP	1uF	10.00%	16V
C114	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C115	1-104-665-11	ELECT	100uF	20.00%	10V
C116	1-104-665-11	ELECT	100uF	20.00%	10V
C117	1-104-665-11	ELECT	100uF	20.00%	10V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C121	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C122	1-104-665-11	ELECT	100uF	20.00%	10V
C123	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C124	1-107-823-11	CERAMIC CHIP	0.47uF	10.00%	16V
C125	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C126	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C127	1-104-665-11	ELECT	100uF	20.00%	10V
C129	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C130	1-164-346-11	CERAMIC CHIP	1uF		16V
C131	1-126-964-11	ELECT	10uF	20.00%	50V
C133	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-164-346-11	CERAMIC CHIP	1uF		16V
C141	1-164-346-11	CERAMIC CHIP	1uF		16V
C143	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C145	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C153	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C162	1-104-665-11	ELECT	100uF	20.00%	10V
C163	1-104-665-11	ELECT	100uF	20.00%	10V
C165	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C167	1-163-237-11	CERAMIC CHIP	27PF	5.00%	50V
C168	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C171	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C172	1-163-123-00	CERAMIC CHIP	180PF	5%	50V

Ref. No.	Part No.	Description			Remarks
C181	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C182	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
		< CONNECTOR >			
CN101	1-784-741-11	CONNECTOR, FFC 19P			
CN102	1-793-907-11	CONNECTOR, FFC/FPC 16P			
		< FERRITE BEAD >			
FB101	1-500-445-21	FERRITE	0UH		
FB103	1-500-445-21	FERRITE	0UH		
		< IC >			
IC101	8-752-386-85	IC CXD2587Q			
IC102	8-759-549-28	IC BA5974FP-E2			
IC103	8-752-085-51	IC CXA2568M-T6			
		< TRANSISTOR >			
Q101	8-729-049-31	TRANSISTOR 2SB710-RTX			
		< RESISTOR >			
R101	1-216-077-91	RES-CHIP	15K	5%	1/10W
R102	1-216-097-11	RES-CHIP	100K	5%	1/10W
R103	1-216-077-91	RES-CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-073-00	METAL CHIP	10K	5%	1/10W
R106	1-216-049-11	RES-CHIP	1K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R109	1-216-121-11	RES-CHIP	1M	5%	1/10W
R110	1-216-025-11	RES-CHIP	100	5%	1/10W
R111	1-216-121-11	RES-CHIP	1M	5%	1/10W
R113	1-216-121-11	RES-CHIP	1M	5%	1/10W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-001-00	METAL CHIP	10	5%	1/10W
R117	1-216-049-11	RES-CHIP	1K	5%	1/10W
R118	1-216-025-11	RES-CHIP	100	5%	1/10W
R119	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-11	RES-CHIP	100K	5%	1/10W
R131	1-216-033-00	METAL CHIP	220	5%	1/10W
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W

BD LOADING MAIN PANEL 1

Ref. No.	Part No.	Description			Remarks
R147	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-001-00	METAL CHIP	10	5%	1/10W
R158	1-216-111-00	METAL CHIP	390K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W
R171	1-216-078-00	RES-CHIP	16K	5%	1/10W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-077-91	RES-CHIP	15K	5%	1/10W
R181	1-216-078-00	RES-CHIP	16K	5%	1/10W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W
R183	1-216-077-91	RES-CHIP	15K	5%	1/10W
		< RESISTOR ARRAY >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
		< SWITCH >			
S101	1-771-853-11	SWITCH, DETECTION (LIMIT IN)			
		< VIBRATOR >			
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)			
**********					
	1-674-336-21	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN1	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S1	1-771-799-11	SWITCH, LEVER (SLIDE) (OPEN/CLOSE)			
**********					
	1-678-680-11	MAIN BOARD			
		*********			
		< CAPACITOR >			
C701	1-161-494-00	CERAMIC	0.022uF		25V
C702	1-126-934-11	ELECT	220uF	20.00%	10V
C711	1-162-290-31	CERAMIC	470PF	10%	50V
C712	1-162-290-31	CERAMIC	470PF	10%	50V
C713	1-162-282-31	CERAMIC	100PF	10%	50V
C714	1-164-159-11	CERAMIC	0.1uF		50V
C715	1-164-159-11	CERAMIC	0.1uF		50V
C716	1-164-159-11	CERAMIC	0.1uF		50V
C717	1-164-159-11	CERAMIC	0.1uF		50V
C718	1-164-159-11	CERAMIC	0.1uF		50V
C719	1-164-159-11	CERAMIC	0.1uF		50V
C721	1-127-719-91	ELECT MELF	220uF	20%	16V
C722	1-128-837-51	ELECT	3300uF	20%	10V
C725	1-162-286-31	CERAMIC	220PF	10%	50V
C726	1-162-286-31	CERAMIC	220PF	10%	50V
C727	1-162-286-31	CERAMIC	220PF	10%	50V
C728	1-164-159-11	CERAMIC	0.1uF		50V
C731	1-161-494-00	CERAMIC	0.022uF		25V
C732	1-161-494-00	CERAMIC	0.022uF		25V
C741	1-104-664-11	ELECT	47uF	20.00%	10V
C791	1-104-656-11	ELECT	2200uF	20.00%	6.3V
C792	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description				
		< CONNECTOR >				
* CN112	1-568-954-11	PIN, CONNECTOR 5P				
CN701	1-794-498-11	SOCKET, CONNECTOR 20P				
CN711	1-506-469-11	PIN, CONNECTOR 4P				
CN713	1-784-780-11	CONNECTOR, FFC 19P				
		< DIODE >				
D711	8-719-921-44	DIODE MTZJ-T-72-5.1C				
D712	8-719-921-44	DIODE MTZJ-T-72-5.1C				
D713	8-719-921-44	DIODE MTZJ-T-72-5.1C				
D714	8-719-921-44	DIODE MTZJ-T-72-5.1C				
D731	8-719-947-16	DIODE MTZJ-T-72-5.1A				
D741	8-719-911-19	DIODE 1SS133T-72				
		< FERRITE BEAD >				
FB701	1-412-473-21	INDUCTOR	0UH			
		< IC >				
IC701	8-749-923-04	IC TOTX178A (DIGITAL OPTICAL OUT)				
IC721	8-759-071-48	IC TA7807S				
IC731	8-759-822-09	IC LB1641				
IC741	8-759-635-63	IC M51943BSL-TP				
		< COIL >				
L721	1-408-117-00	INDUCTOR	10uH			
		< TRANSISTOR >				
Q741	8-729-422-57	TRANSISTOR BN1A4M-TP				
Q742	8-729-422-57	TRANSISTOR BN1A4M-TP				
		< RESISTOR >				
R711	1-247-807-31	CARBON	100	5%	1/4W	
R725	1-247-807-31	CARBON	100	5%	1/4W	
R726	1-247-807-31	CARBON	100	5%	1/4W	
R727	1-247-807-31	CARBON	100	5%	1/4W	
R731	1-249-409-11	CARBON	220	5%	1/4W	F
R732	1-247-807-31	CARBON	100	5%	1/4W	
R733	1-247-807-31	CARBON	100	5%	1/4W	
R734	1-249-429-11	CARBON	10K	5%	1/4W	
R741	1-249-417-11	CARBON	1K	5%	1/4W	F
R742	1-249-429-11	CARBON	10K	5%	1/4W	
R761	1-247-807-31	CARBON	100	5%	1/4W	
**********						
	1-678-681-11	PANEL 1 BOARD				
		**********				
		< DIODE >				
D781	8-719-058-03	DIODE SEL5423E-TP15 (▷)				
D782	8-719-057-97	DIODE SEL5923A-TP15 (▯▯)				
		< RESISTOR >				
R771	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R772	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R773	1-249-429-11	CARBON	10K	5%	1/4W	
R774	1-249-430-11	CARBON	12K	5%	1/4W	
R775	1-249-433-11	CARBON	22K	5%	1/4W	
R781	1-249-411-11	CARBON	330	5%	1/4W	
R782	1-249-411-11	CARBON	330	5%	1/4W	

Ref. No.	Part No.	Description			Remarks
		< SWITCH >			
S771	1-771-410-21	SWITCH, TACTILE (⏮◀◀)			
S772	1-771-410-21	SWITCH, TACTILE (▶▶⏭)			
S773	1-771-410-21	SWITCH, TACTILE (⏏)			
S774	1-771-410-21	SWITCH, TACTILE (□)			
S775	1-771-410-21	SWITCH, TACTILE (▯▯)			
S776	1-771-410-21	SWITCH, TACTILE (▷)			
**********					
	1-678-682-11	PANEL 2 BOARD			
		**********			
		< RESISTOR >			
R776	1-249-437-11	CARBON	47K	5%	1/4W
R777	1-247-881-00	CARBON	120K	5%	1/4W
		< SWITCH >			
S777	1-771-410-21	SWITCH, TACTILE (REPEAT)			
S778	1-771-410-21	SWITCH, TACTILE (PLAY MODE)			
**********					
		MISCELLANEOUS			
		**********			
512	1-452-925-21	MAGNET ASSY			
518	1-590-578-11	WIRE (FLAT TYPE) (19 CORE)			
⚠552	8-820-116-01	OPTICAL PICK-UP KSM-213DCP/Z-NP			
553	1-792-024-11	WIRE (FLAT TYPE) (16 CORE)			
M103	A-4672-984-A	MOTOR (LD) ASSY (LOADING)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

TC-SP55

SERVICE MANUAL

AEP Model
UK Model
E Model

Ver 1.1 2001.03

TC-SP55 is the deck section in CMT-SP55TC, and TC-SP55 is sold in the option as a tape deck of CMT-SP55MD.

This stereo system is equipped with the Dolby* B-type noise reduction system.
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡⊡ are trademarks of the Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	CMAL2Z720A

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	(DOLBY NR OFF) 40 – 14,000 Hz (±3 dB) using Sony TYPE I cassettes 40 – 15,000 Hz (±3 dB), using Sony TYPE II cassettes

General

Dimensions (w/h/d) incl. projecting parts and controls	Approx. 202 x 101 x 283 mm
Mass	Approx. 1.9 kg
Supplied accessory	System cable (1)

Design and specifications are subject to change without notice.

STEREO CASSETTE DECK

9-929-539-12
2001C0900-1
© 2001.3

Sony Corporation
Audio Entertainment Group
General Engineering Dept.

SONY®

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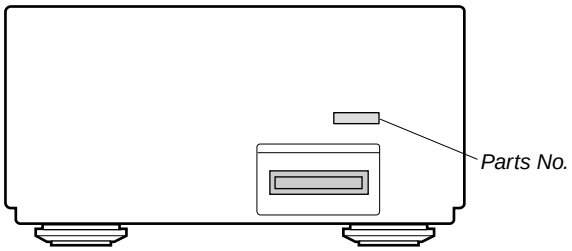
MODEL IDENTIFICATION

— BACK PANEL —



MODEL	PARTS No.
AEP, UK, AED models	4-229-654-0☐
MY, SP models	4-229-654-2☐
KR model	4-229-654-3☐

- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model
  KR : Korean model

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTE

This unit cannot be repaired by itself.
When repairing, connect the whole system except for the speaker.

Cold Reset

- When the AC cord is removed, COLD RESET is done with TC-SP55.

ST Test Mode

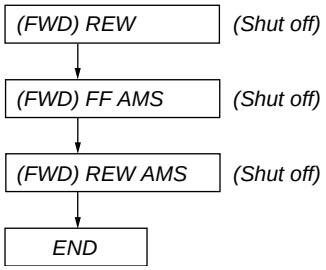
Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and PLAY MODE buttons (CDP) together.
2. LCD are all turned on.
3. Press TUNING MODE button (ST) to enter the model destination indecation mode. “SP55 CE2” or “SP55 ASIA2” appears.
4. Every pressing of TUNING MODE button (ST) changes the display in the following order.
   MC Version ⟶ CD Version ⟶ ST Version ⟶ TC Version ⟶ TA Version ⟶ TM Version ⟶ model destination display.
5. Press DISPLAY button (ST) and the date appears as “ 00615a ”
   Every pressing of DISPLAY button (ST) changes the display in the Version display and model destination display.
6. Press TUNER/BAND button (ST) to enter the key check mode.
7. In the key check mode, the fluorescent indicator tube displays “Key 0 Vol 0”. Each time a button is pressed, “Key” value increases. However, once a button is pressed, it is no longer taken into account.
   “Vol” Value increases like “1, 2, 3 ...” if rotating VOLUME knob (TA) in the clockwise direction, or decreases like “0, 9, 8 ...” if rotating in the counterclockwise diretion. (The TC-SP55 is not count.)
8. To exit from this mode, disconnect the power cord.

MC Test Mode

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing TUNING MODE button (ST) and REPEAT button (CDP) together.
2. Frame of the MD mark and the CD mark flash, and “BASS/TRE FLAT” appears for a moment.
3. When the VOLUME knob (TA) is turned clockwise, “VOLUME MAX” appears for a moment.
4. When the VOLUME knob (TA) is turned counterclockwise, “VOLUME MIN” appears for a moment.
5. Select the function “TAPE” using the FUNCTION knob (TA).
   Set the test tape AMS-110A or AMS-120.
6. Press DIRECTION button (TC) to enter either “⟲” (loop) or “⇄” (two way).
7. Press the CD SYNC REC button (TC) to start the AMS test.



8. Number of AMS signals is counted during the AMS test and the message “EDG#” (# means a number) appears. When the test tape either AMS-110A or AMS-120 is used, the AMS signal is detected twice before shut off.
9. When the AMS test ends, either “OK” or “NG” appears.
10. To exit the MC test mode, either press the I/⏻ button (TA) or perform the cold reset as described above.

Aging Mode

• Mode for repeating operations of the CD player and TC deck automatically.

When errors occur:

Aging stops and a message indicating that an error has occurred such as “CD MEC ERR” is displayed.
(For details of errors, refer to “Error History Display Mode”.)

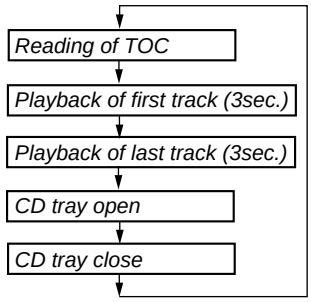
When no errors occur:

Aging is repeatedly performed.

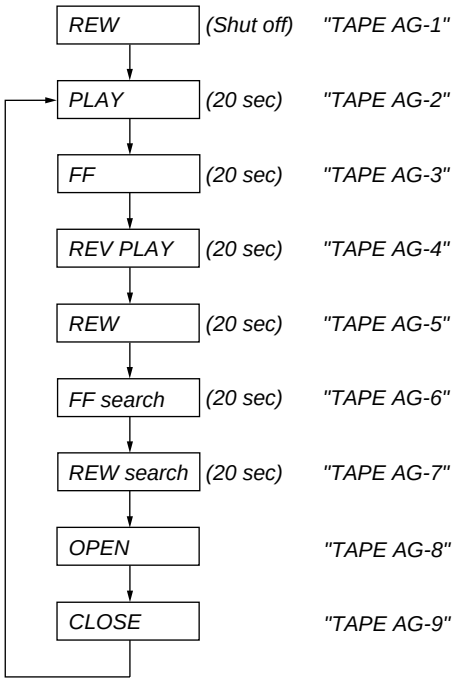
Procedure:

1. Load any CD and a tape.
2. Select the function “CD” using the FUNCTION knob (TA).
3. While pressing the TUNING MODE button (ST) and ▷ button (CDP), press the I/⏻ button (TA).
4. “AGING” is displayed on the LCD briefly.
5. Operations are performed in the following sequence during aging.
   Every pressing of DISPLAY button (ST) changes the display in the CD display and TAPE display.

CD :



Cassette :



6. To end aging, execute the cold reset.

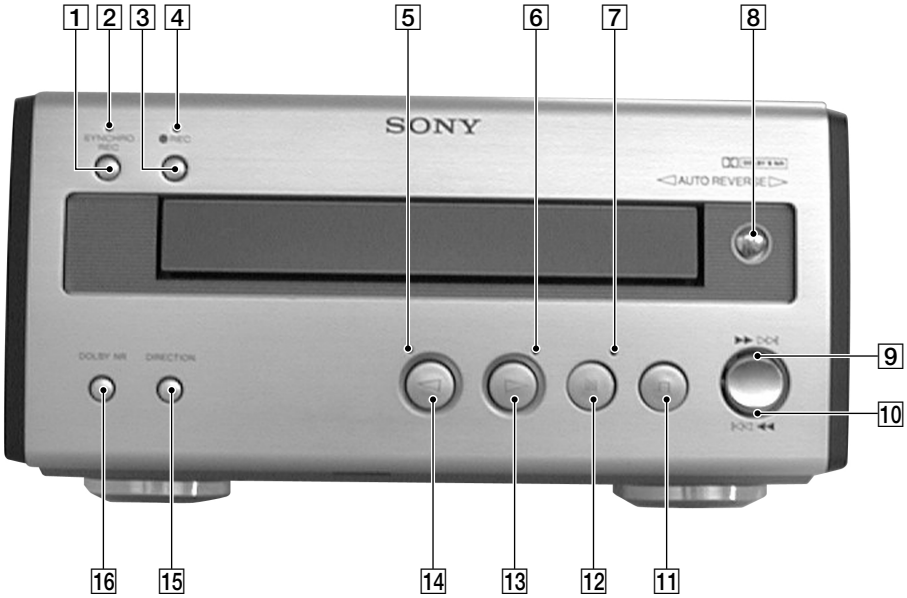
Error History Display Mode

Mode for checking the history of errors which have occurred in the CD player.
Execute this mode after ending the aging mode.

Procedure:

1. Select the function “CD” using the FUNCTION knob (TA).
2. While pressing the TUNING MODE button (ST) and ▯▯ button (CDP), press the I/⏻ button (TA).
3. “EMC@@EDC**” id displayed.
   @@: Number of mechanism errors (Last 3 errors)
   ** : Number of errors (NO DISC ERROR) which occurred after chucking (Last 3 errors)
4. To end, press the I/⏻ button (TA) and turn OFF the power.
5. To erase the error history, perform cold reset.
   (While pressing the TUNING MODE button (ST) and ▶▶ ▷▷▯ button (CDP), press the I/⏻ button.)

SECTION 2
GENERAL



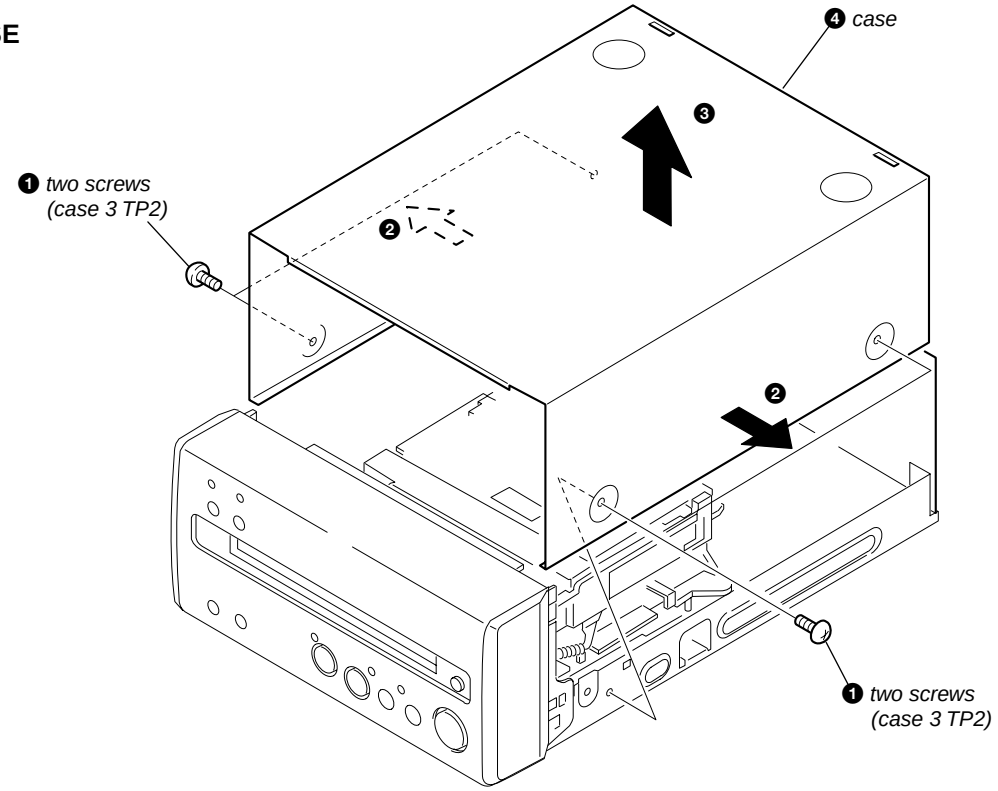
1	CD SYNC REC button	9	▶▶ ▷▷I button
2	CD SYNC REC indicator	10	I◁◁ ◀◀ button
3	● REC button	11	□ button
4	● REC indicator	12	II button
5	◁ indicator	13	▷ button
6	▷ indicator	14	◁ button
7	II indicator	15	DIRECTION button
8	⏏ button	16	DOLBY NR button

SECTION 3
DISASSEMBLY

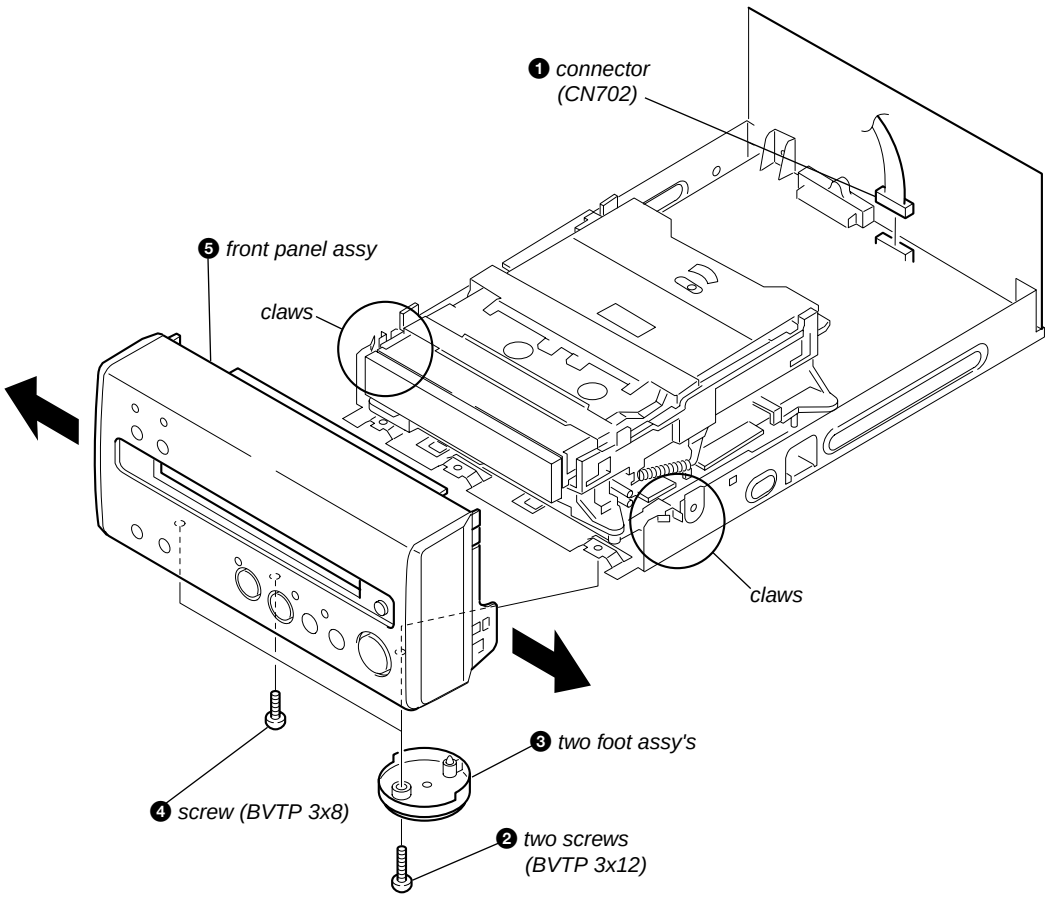
Set → Case → Front Panel Assy → Mechanism Assy (Page 7)
Case → Main Board (Page 7)
Front Panel Assy → Pinch Roller BLK Assy, Belt (Page 8)

Note: Follow the disassembly procedure in the numerical order given.

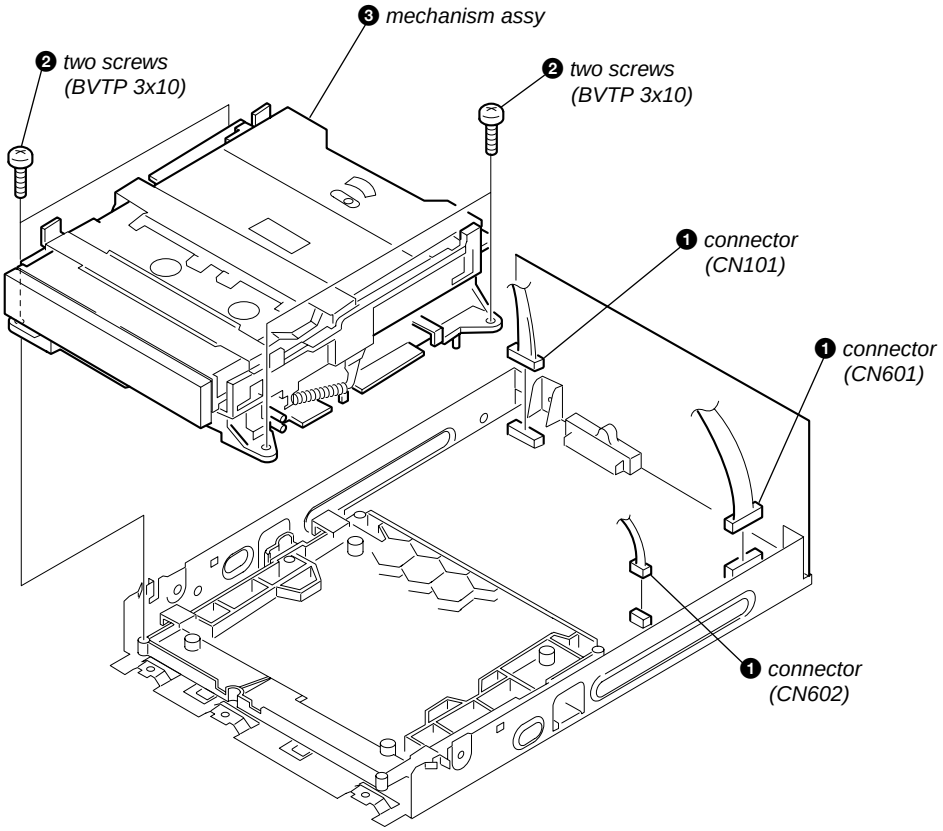
3-1. CASE



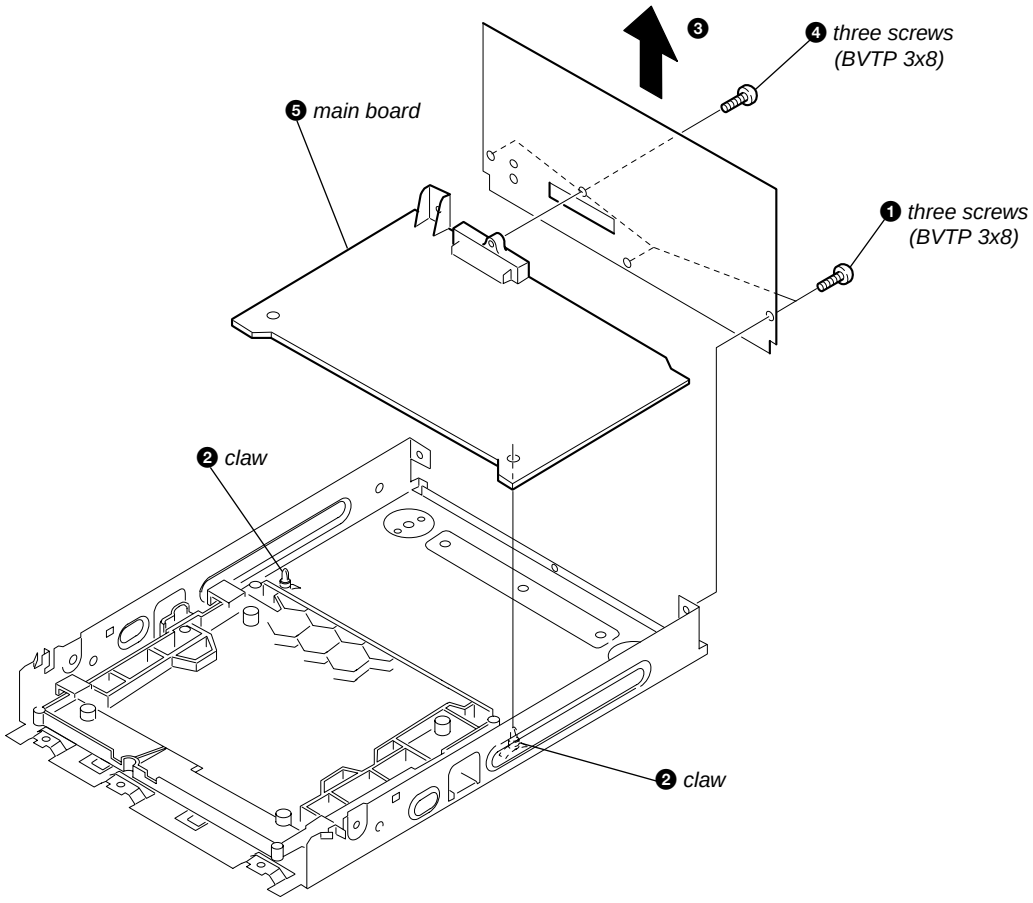
3-2. FRONT PANEL ASSY



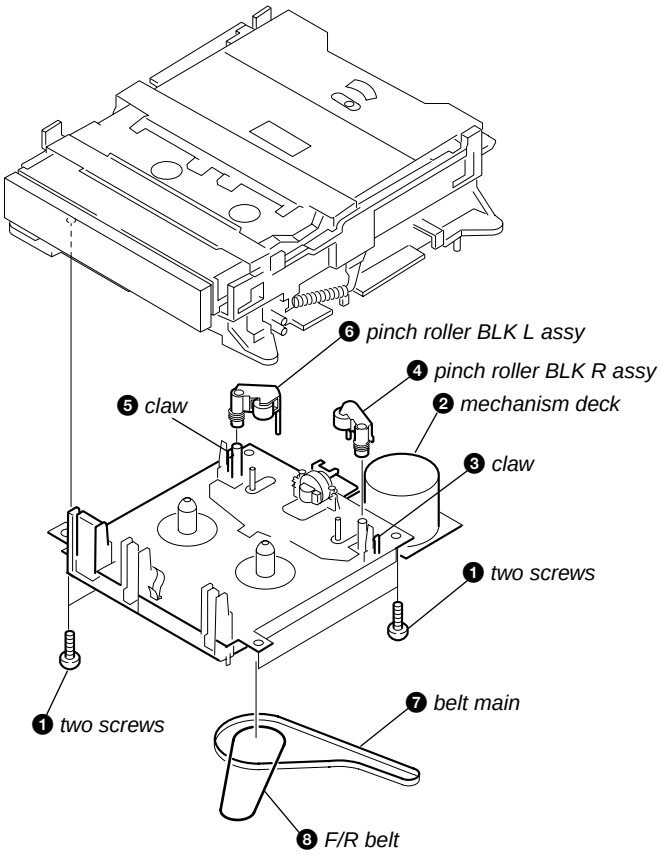
3-3. MECHANISM ASSY

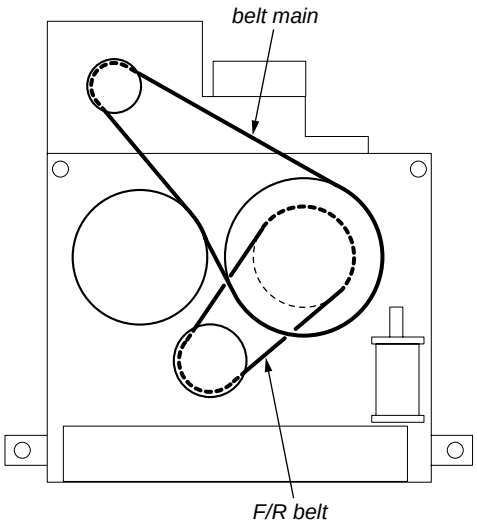


3-4. MAIN BOARD



3-5. PINCH ROLLER BLK ASSY, BELT





SECTION 4
TEST MODE

4-1. TEST MODE FOR NOT CONNECTING THE WHOLE SYSTEM (When connecting TA-SP55,ST-SP55,TC-SP55)

4-1-1. SETTING THE TEST MODE

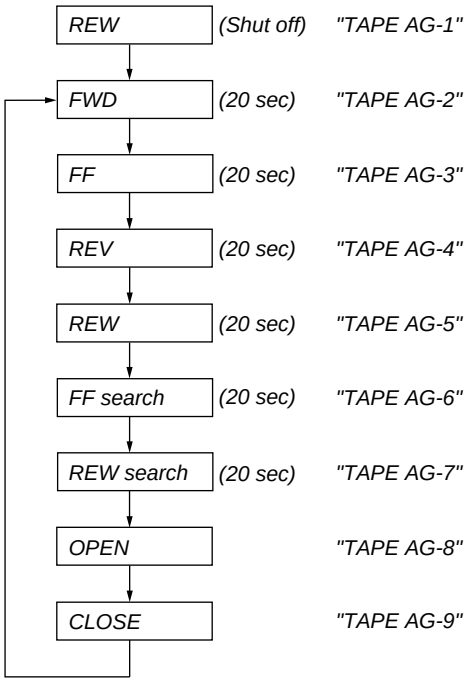
Procedure:

1. When the power ON, press the [I/⏻] button (TA) while pressing the [□] button (TC) and [CD SYNC REC] buttons (TC) together.
2. When the test mode is set, the PAUSE LED will light up for 0.1 seconds at intervals of 3.2 seconds.
3. To exit the test mode, either press the [I/⏻] button (TA) and turn OFF the power.

4-1-2. TC AGING MODE

Procedure:

1. After setting the test mode, press the [▷] button (TC).
2. Operations are performed in the following sequence during aging.



4-1-3. TC AMS CHECK

Procedure:

1. After setting the test mode, pressing the [□] button (TC) and then the [CD SYNC REC] button (TC) will start REW operations.
2. After rewinding to the tape top,FF search in the FWD direction starts.
   "TAPE EDG*" will be displayed.(*: Arbitrary number)
3. After FF searching to the tape end, the tape will be automatically stopped, and "TAPE OK" or "TAPE NG" will be displayed.

4-1-4. TC REC START POINT

Procedure:

1. Set the test mode, and press the [REC] button (TC) and then the [▷] button (TC) to set the recording state.
2. Pressing the [CD SYNC REC] button (TC) returns to the starting point of recording.

4-2. TEST MODE FOR CONNECTING THE WHOLE SYSTEM

4-2-1. TC Aging Mode (Connecting The Whole System)

- Mode for repeating operations of the CD player and TC deck automatically.

When errors occur:

Aging stops and a message indicating that an error has occurred such as “CD MEC ERR” is displayed.
(For details of errors, refer to “Error History Display Mode”.)

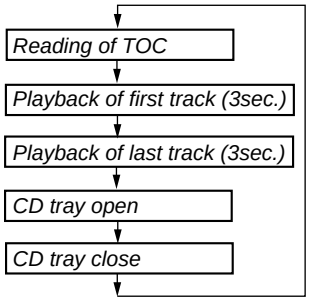
When no errors occur:

Aging is repeatedly performed.

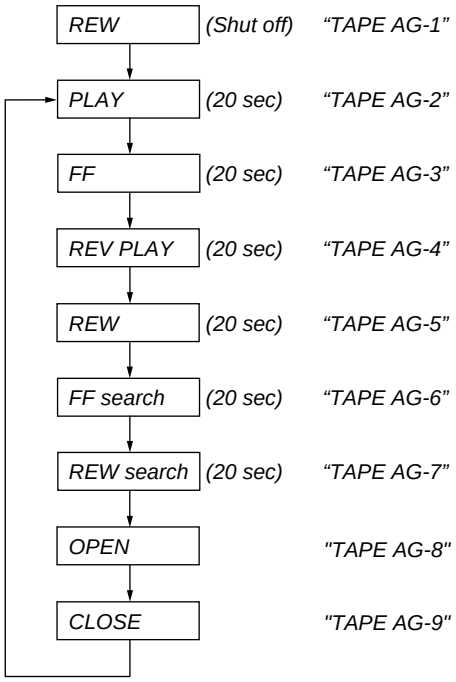
Procedure:

1. Load any CD and a tape.
2. Select the function “CD” using the [FUNCTION] knob(TA) .
3. While pressing the [TUNING MODE] button (ST) and [▷] button (CDP), press the [I/⏻] button (TA).
4. “AGING” is displayed on the fluorescent display tube briefly.
5. Operations are performed in the following sequence during aging.
   Every pressing of [DISPLAY] button (ST) changes the display in the CD display and TAPE display.

CD :



Cassette :



6. To end aging, execute the cold reset.

SECTION 5
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   - record/playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	3.04 – 6.96 N • m (31 to 71 g • cm) (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	0.20 – 0.58 N • m (2 to 6 g • cm) (0.02 – 0.08 oz • inch)
REV	CQ-102RC	3.04 – 6.96 N • m (31 to 71 g • cm) (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	0.20 – 0.58 N • m (2 to 6 g • cm) (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	6.97 – 14.02 N • m (71 to 143 g • cm) (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	0.98 N • m or more (100 g or more) (3.53 oz or more)
REV tension	CQ-403R	0.98 N • m or more (100 g or more) (3.53 oz or more)

SECTION 6
ELECTRICAL ADJUSTMENTS

0 DB=0.775V

Note: Before starting the adjustment, measure performance of the machine. Perform adjustment only when the measured performances do not satisfy the specifications.

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

completed before performing recording circuit adjustment.)

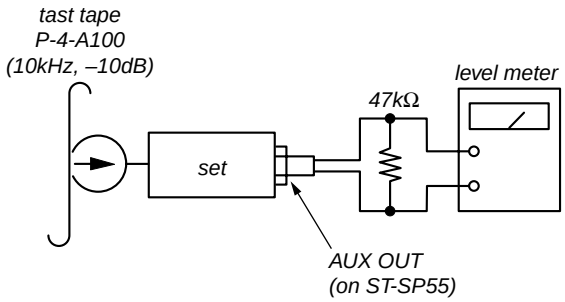
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

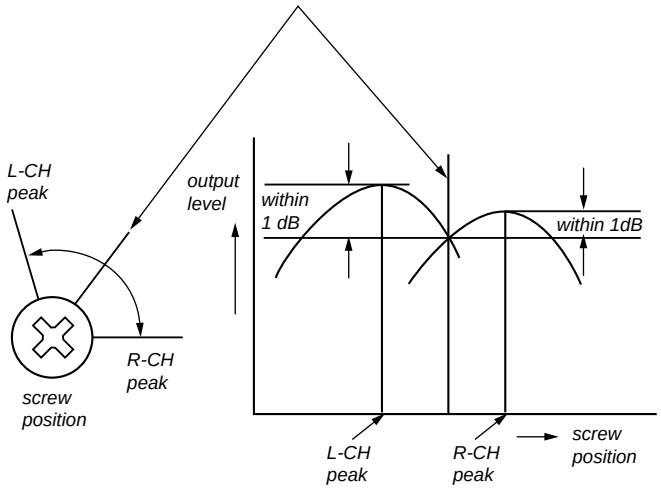
Record/Playback Head Azimuth Adjustment

Procedure:

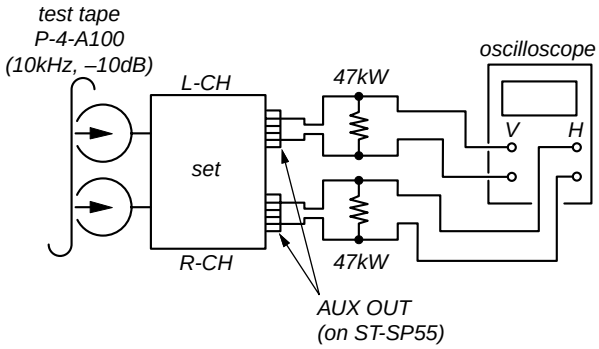
1. Mode : FWD playback



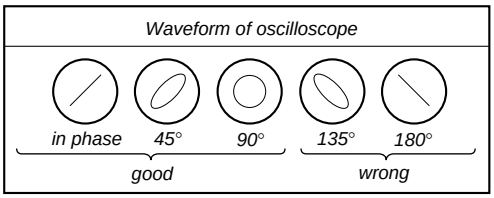
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



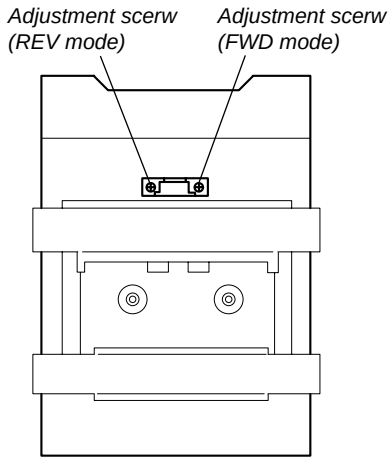
3. Phase check
   Model: FWD playback



4. Perform steps 1 to 3 in the FWD playback mode.
5. Confirm that phase error between L-ch and R-ch is in the range of same phase to 90 degrees.
6. After the adjustments, apply suitable locking compound to the parts adjusted.

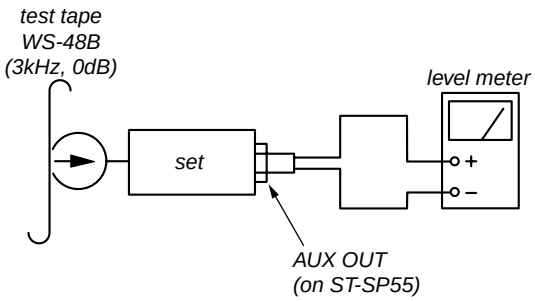


Adjustment Location:



Tape Speed Adjustment

Procedure:



1. Insert the WS-48B into deck.
2. Press the ▷ button of deck.
3. Adjust RV362 of the MAIN board so that the reading of the frequency counter becomes 3000 ± 90 Hz.

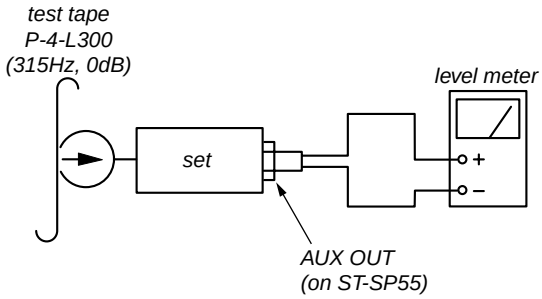
Adjustment Location: MAIN board

Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

Playback Level Adjustment

Procedure:
Mode: FWD playback

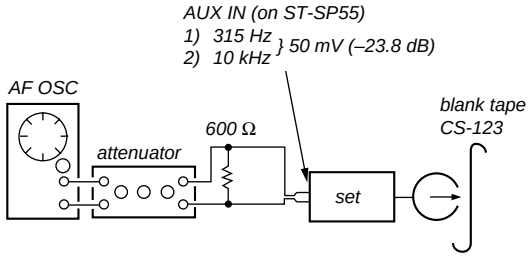


Adjust RV211 (L-CH) and RV261 (R-CH), so that adjustment within the following adjustment level.

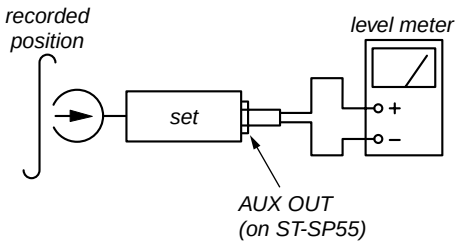
Adjustment level:
AUX OUT level: –8.2 ± 0.5 dB (285 to 319 mV)
Level difference between the channels: within ± 1.0 dB
Confirm that the AUX OUT level does not change even though play and stop are repeated.

Record Bias Adjustment

Procedure:
1. Record mode.



2. Playback mode.

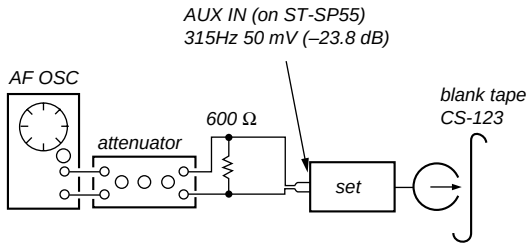


3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
   Note: You had better to refer "4-1-4. TC REC START POINT" See page 9) when this adjustment
4. If these levels do not adjustment level, adjust the RV311 (L-CH) and RV361 (R-CH), to repeat steps 1 to 3.
   Adjustment level:
   The playback outpout of 10 kHz level difference adjust 315 Hz reference should be 0 dB ± 0.5 dB.

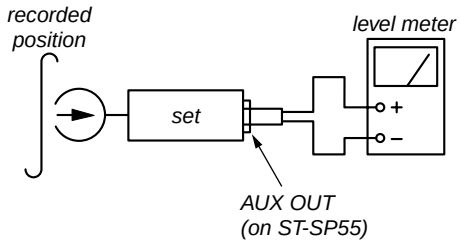
Record Level Adjustment

Procedure:

1. Record mode.

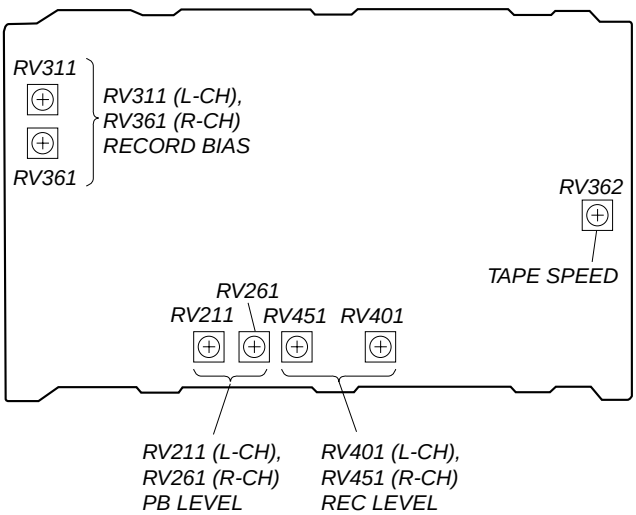


2. Playback mode.



3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
4. If these levels do not adjustment level, adjust the RV401 (L-CH) and RV451 (R-CH), on the MAIN board to repeat steps 1 to 3.
   Adjustment level:
   LINE OUT level: –21.8 dB ± 0.5 dB (59.5 to 66.7 mV)

   Adjustment Location: MAIN board



SECTION 7
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B + : B+ Line.
- B − : B– Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : PB
  : REC
- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model

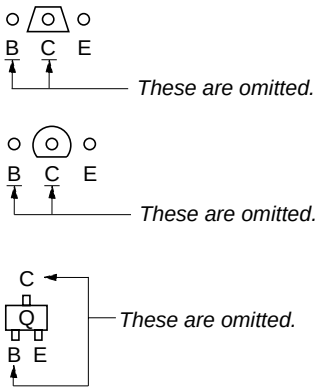
For printed wiring boards.

Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ▒▒ : Pattern from the side which enables seeing.

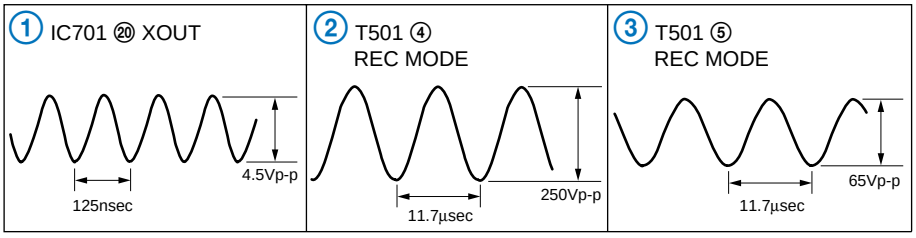
(The other layers' patterns are not indicated.)

- **Indication of transistor**

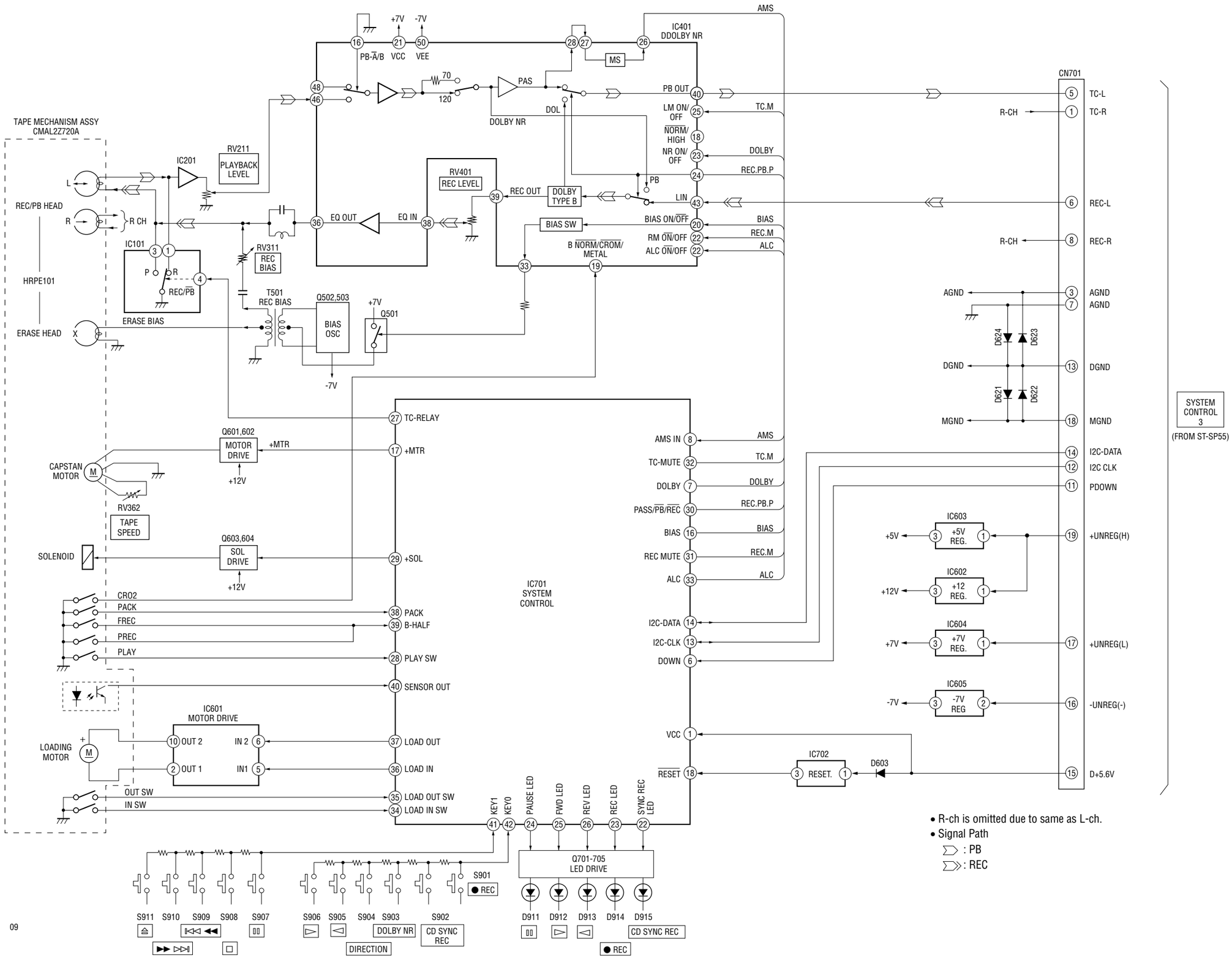


• WAVEFORMS

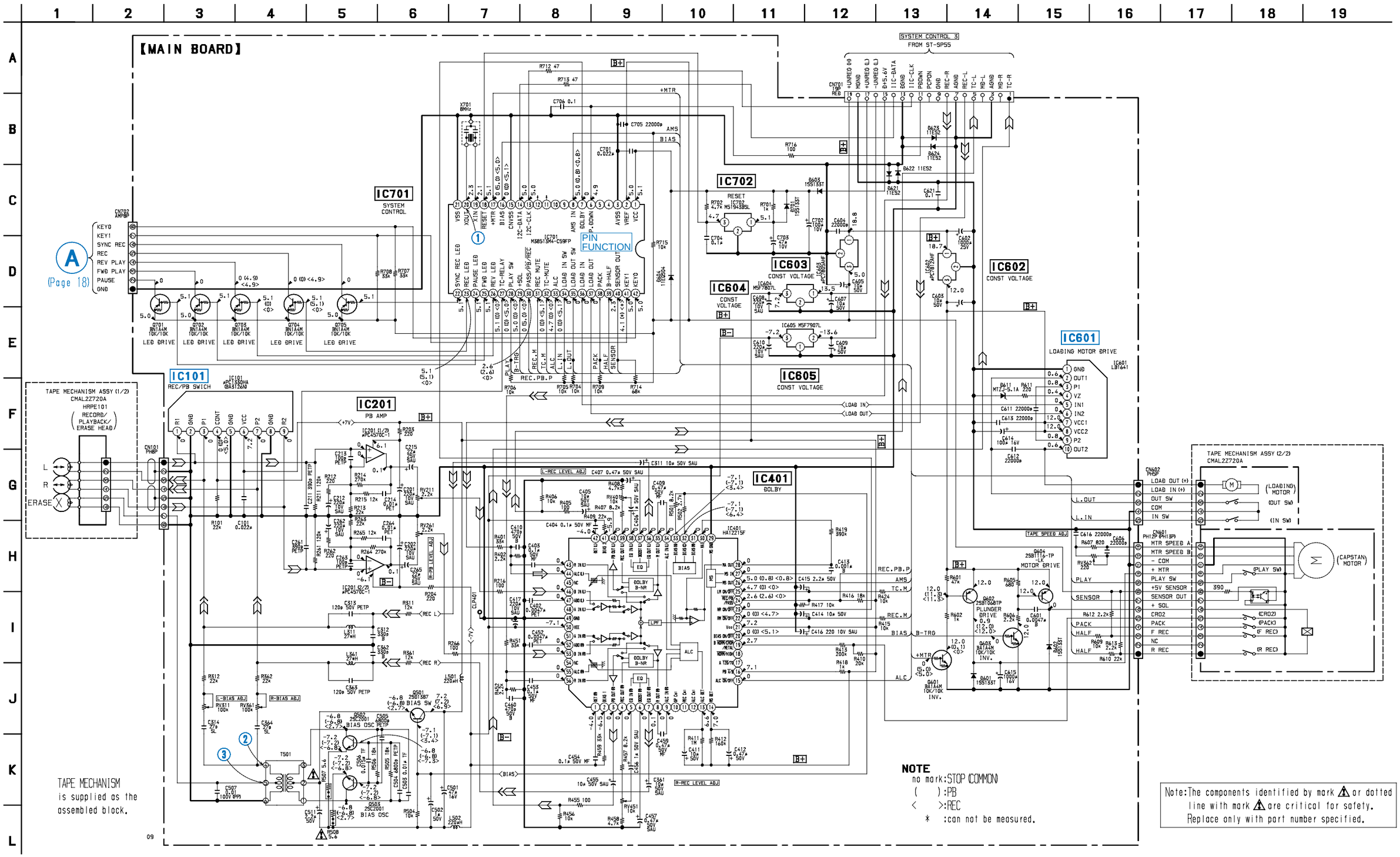
– MAIN BOARD –



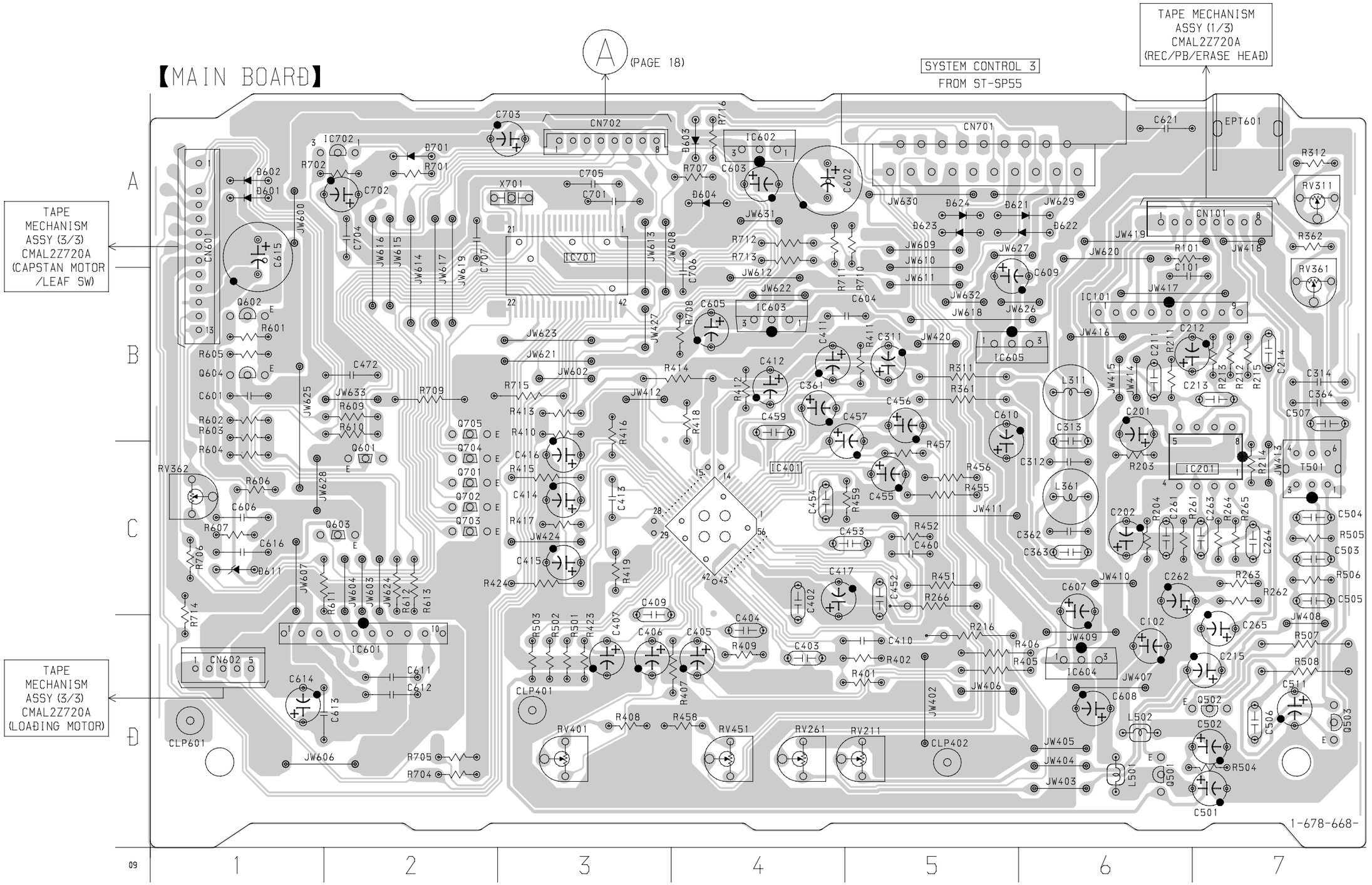
7-1. BLOCK DIAGRAM



7-2. SCHEMATIC DIAGRAM – MAIN SECTION – • See page 14 for Waveforms. • See page 19 for IC Pin Functions. • See page 20 for IC Block Diagrams.



7-3. PRINTED WIRING BOARD – MAIN SECTION –

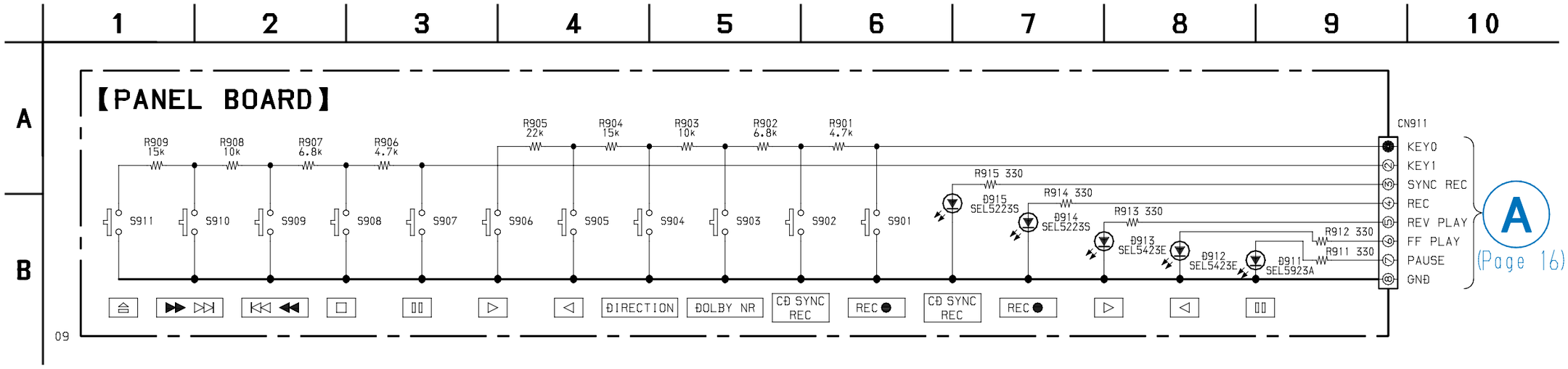


- **Semiconductor Location**

Ref. No.	Location
D601	A-1
D602	A-1
D603	A-4
D604	A-4
D611	C-1
D621	A-5
D622	A-5
D623	A-5
D624	A-5
D701	A-2
IC101	B-6
IC201	C-7
IC401	C-4
IC601	D-2
IC602	A-4
IC603	B-4
IC604	D-6
IC605	B-5
IC701	B-3
IC702	A-2
Q501	D-6
Q502	D-7
Q503	D-7
Q601	C-2
Q602	B-1
Q603	C-2
Q604	B-1
Q701	C-2
Q702	C-2
Q703	C-2
Q704	C-2
Q705	B-2

There are a few cases that the part isn't mounted in model is printed on diagram.

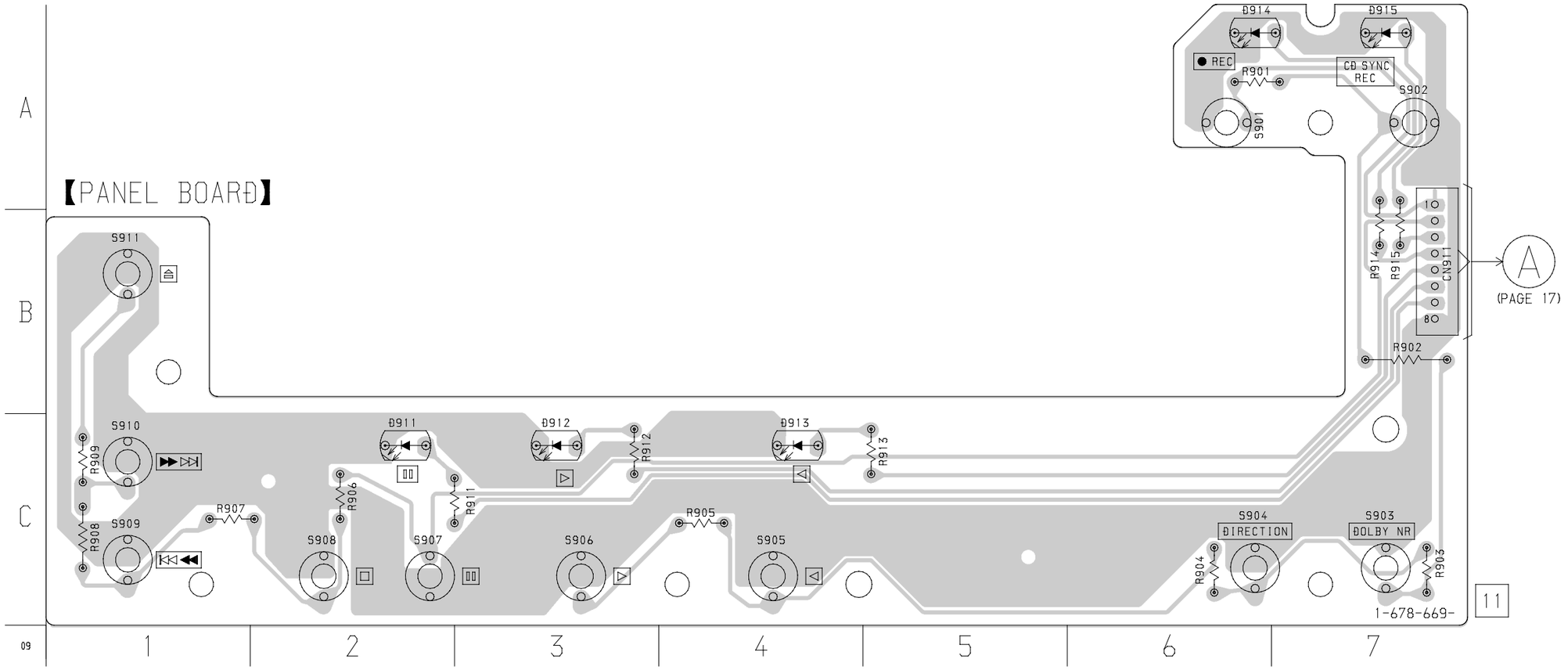
7-4. SCHEMATIC DIAGRAM – PANEL SECTION –



7-5. PRINTED WIRING BOARD – PANEL SECTION –

- **Semiconductor Location**

Ref. No.	Location
Đ911	C-2
Đ912	C-3
Đ913	C-4
Đ914	A-6
Đ915	A-7



There are a few cases that the part isn't mounted in model is printed on diagram.

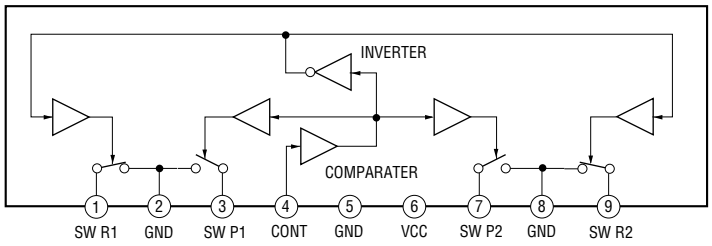
7-6. IC PIN FUNCTIONS

• IC701 M38513M4-C59FP SYSTEM CONTROL (MAIN BOARD)

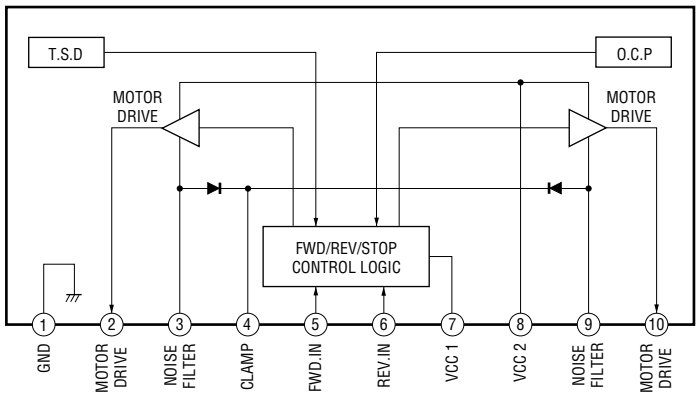
Pin No.	Pin Name	I/O	Function
1	VCC	—	Power supply.(+5V)
2	VREF	—	Analog Reference Voltage.
3	AVSS	—	Ground.
4	NC	—	Not used.
5	NC	—	Not used.
6	P.DOWN	I	POWER DOWN signal control signal input. H: Normal L: STANDBY mode
7	DOLBY	O	DOLBY B NR control signal output. H: ON L: OFF
8	AMS IN	I	AMS search signal input.
9	NC	—	Not used.
10	NC	—	Not used.
11	NC	—	Not used.
12	NC	—	Not used.
13	I2C-CLK	I/O	IIC bus clock input/output.
14	I2C-DATA	I/O	IIC bus data input/output.
15	CNVSS	—	Connected to ground.
16	BIAS	O	REC bias control signal output. H: ON L: OFF
17	+MTR	O	Capstan Motor control. H: ON L: OFF
18	$\overline{\text{RESET}}$	I	Reset signal input. L: RESET
19	XIN	I	Ceramic oscillator input.(8MHz)
20	XOUT	O	Ceramic oscillator output.(8MHz)
21	VSS	—	Ground.
22	SYNC REC LED	O	CD SYNC LED control signal output. H: OFF L: ON
23	REC LED	O	REC LED control signal output. H: OFF L: ON
24	PAUSE LED	O	PAUSE LED control signal output. H: OFF L: ON
25	FWD LED	O	FWD LED control signal output. H: OFF L: ON
26	REV LED	O	REV LED control signal output. H: OFF L: ON
27	TC-RELAY	O	Head REC/PB select signal output. H: REC L: PB
28	PLAY SW	I	MC PLAY switch signal input.
29	+SOL	O	MC mode exchange solenoid control signal output.
30	$\overline{\text{REC}}$/$\overline{\text{PB}}$/PASS	I/O	REC/PB/PASS select . H: REC PASS L: REC mode 1/2Vcc: PB MODE
31	REC MUTE	O	REC MUTE control. H: ON L: OFF
32	TC-MUTE	O	TC LINE MUTE control signal output. H: ON L: OFF
33	ALC	O	Automatic level control signal output. H: OFF L: ON
34	LOAD IN SW	I	Detection input from the tray open/close switch. H: LOAD IN
35	LOAD OUT SW	I	Detection input from the tray open/close switch. L: LOAD OUT
36	LOAD IN	O	Tray loading motor LOAD IN signal output. H: ON L: OFF
37	LOAD OUT	O	Tray loading motor LOAD OUT signal output. H: ON L:OFF
38	PACK	I	Detection input from the cassette half switch. H: HALF OFF L: HALF ON (H:without a half L: within a half)
39	B-HALF	I	REC proof detect signal input.
40	SENSOR OUT	I	Reel senser signal input.
41	KEY1	I	Key input.
42	KEY0	I	Key input.

7-7. IC BLOCK DIAGRAMS

IC101 µPC1330HA (MAIN BOARD)



IC601 LB1641 (MAIN BOARD)

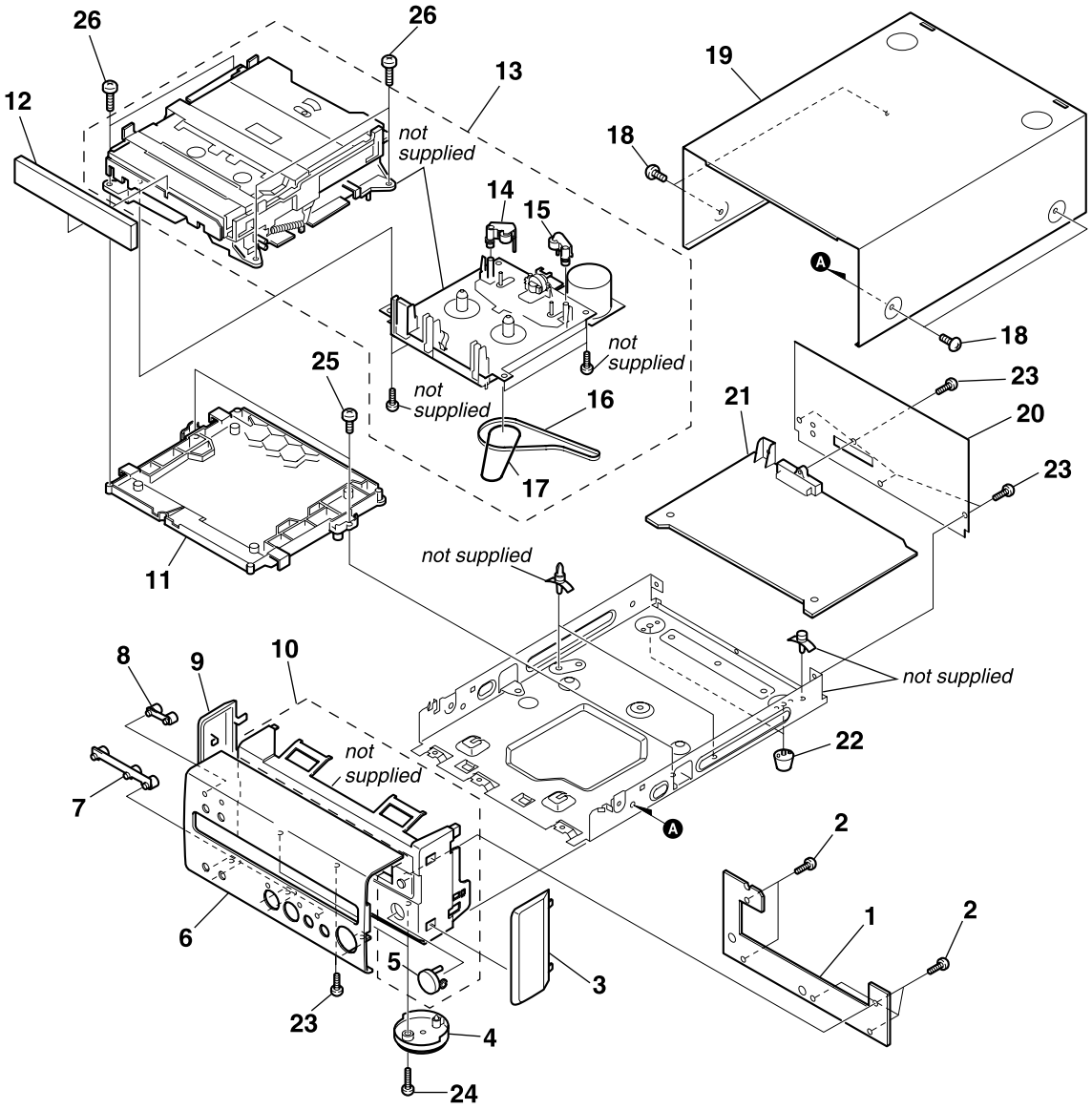


SECTION 8
EXPLODED VIEW

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of the electrical parts list.
- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model
  KR : Korean model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

8-1. CASE AND FRONT PANEL



Ref. No.	Part No.	Description	Remark
1	1-678-669-11	PANEL BOARD	
2	4-951-620-01	SCREW(2.6X8), +BVTP	
3	4-229-703-01	PLATE(R), SIDE	
4	X-4953-027-1	FOOT ASSY	
5	4-229-678-01	BUTTON (U/D)	
6	4-229-648-01	PANEL (TC), FRONT	
7	4-229-652-01	INDICATOR (PLAY)	
8	4-229-651-01	INDICATOR (REC)	
9	4-229-704-01	PLATE (L), SIDE	
10	X-4953-025-1	PANEL ASSY (TC), SUB	
11	4-229-653-01	HOLDER (TC)	
12	4-229-649-01	PANEL, LOADING	
13	A-2004-777-A	MECHANISM (CMAL2Z720A) ASSY	
14	X-4949-569-1	PINCH ROLLER BLK L ASSY	
15	X-4949-568-1	PINCH ROLLER BLK R ASSY	

Ref. No.	Part No.	Description	Remark
16	3-356-744-01	BELT MAIN	
17	4-928-951-21	F/R BELT	
18	3-363-099-51	SCREW (CASE 3 TP2)	
19	4-229-701-31	CASE	
20	4-229-654-01	PANEL, BACK (AEP,UK,AED)	
20	4-229-654-21	PANEL, BACK (MY,SP)	
20	4-229-654-31	PANEL, BACK (KR)	
21	A-2007-857-A	MAIN BOARD, COMPLETE	
22	4-965-822-01	FOOT	
23	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
24	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
25	7-685-871-01	SCREW +BVTT 3X6 (S)	
26	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	

MAIN

SECTION 9
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model

Ref. No.	Part No.	Description			Remark
	A-2007-857-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-161-494-00	CERAMIC	0.022uF		25V
C201	1-128-832-11	ELECT	220uF	20%	10V
C202	1-128-832-11	ELECT	220uF	20%	10V
C211	1-110-342-11	MYLAR	390PF	5%	50V
C212	1-128-832-11	ELECT	220uF	20%	10V
C213	1-110-335-11	MYLAR	100PF	5%	50V
C214	1-130-483-00	MYLAR	0.01uF	5%	50V
C215	1-128-858-91	ELECT	22uF	20%	25V
C261	1-110-342-11	MYLAR	390PF	5%	50V
C262	1-128-832-11	ELECT	220uF	20%	10V
C263	1-110-335-11	MYLAR	100PF	5%	50V
C264	1-130-483-00	MYLAR	0.01uF	5%	50V
C265	1-128-858-91	ELECT	22uF	20%	25V
C311	1-119-824-11	ELECT MELF	10uF	20%	50V
C312	1-162-288-31	CERAMIC	330PF	10%	50V
C313	1-137-427-11	MYLAR	120PF	5%	50V
C314	1-162-209-31	CERAMIC	27PF	5%	50V
C361	1-119-824-11	ELECT MELF	10uF	20%	50V
C362	1-162-288-31	CERAMIC	330PF	10%	50V
C363	1-137-427-11	MYLAR	120PF	5%	50V
C364	1-162-209-31	CERAMIC	27PF	5%	50V
C402	1-130-479-00	MYLAR	0.0047uF	5%	50V
C403	1-136-165-00	FILM	0.1uF	5%	50V
C404	1-136-165-00	FILM	0.1uF	5%	50V
C405	1-119-824-11	ELECT MELF	10uF	20%	50V
C406	1-119-820-11	ELECT	1uF	20%	50V
C407	1-128-854-11	ELECT	0.47uF	20%	50V
C409	1-137-194-81	FILM	0.47uF	5%	50V
C410	1-162-290-31	CERAMIC	470PF	10%	50V
C411	1-126-964-11	ELECT	10uF	20%	50V
C412	1-126-959-11	ELECT	0.47uF	20%	50V
C413	1-162-294-31	CERAMIC	0.001uF	10%	50V
C414	1-126-964-11	ELECT	10uF	20%	50V
C415	1-126-961-11	ELECT	2.2uF	20%	50V
C416	1-128-832-11	ELECT	220uF	20%	10V
C417	1-128-832-11	ELECT	220uF	20%	10V
C452	1-130-479-00	MYLAR	0.0047uF	5%	50V
C453	1-136-165-00	FILM	0.1uF	5%	50V
C454	1-136-165-00	FILM	0.1uF	5%	50V
C455	1-119-824-11	ELECT MELF	10uF	20%	50V
C456	1-119-820-11	ELECT	1uF	20%	50V
C457	1-128-854-11	ELECT	0.47uF	20%	50V
C459	1-137-194-81	FILM	0.47uF	5%	50V
C460	1-162-290-31	CERAMIC	470PF	10%	50V
C501	1-104-664-11	ELECT	47uF	20%	16V
C502	1-126-960-11	ELECT	1uF	20%	50V
C503	1-136-153-00	FILM	0.01uF	5%	50V
C504	1-130-481-00	MYLAR	0.0068uF	5%	50V
C505	1-130-481-00	MYLAR	0.0068uF	5%	50V
C506	1-136-155-00	FILM	0.015uF	5%	50V
C507	1-137-150-11	FILM	0.01uF	5%	100V
C511	1-126-961-11	ELECT	2.2uF	20%	50V
C601	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C602	1-126-942-61	ELECT	1000uF	20%	25V
C603	1-126-964-11	ELECT	10uF	20%	50V
C604	1-161-494-00	CERAMIC	0.022uF		25V
C605	1-126-964-11	ELECT	10uF	20%	50V
C606	1-161-494-00	CERAMIC	0.022uF		25V
C607	1-126-964-11	ELECT	10uF	20%	50V
C608	1-128-832-11	ELECT	220uF	20%	10V
C609	1-126-964-11	ELECT	10uF	20%	50V
C610	1-128-832-11	ELECT	220uF	20%	10V
C611	1-161-494-00	CERAMIC	0.022uF		25V
C612	1-161-494-00	CERAMIC	0.022uF		25V
C613	1-161-494-00	CERAMIC	0.022uF		25V
C614	1-126-933-11	ELECT	100uF	20%	16V
C615	1-126-767-11	ELECT	1000uF	20%	16V
C621	1-164-159-11	CERAMIC	0.1uF		50V
C701	1-161-494-00	CERAMIC	0.022uF		25V
C702	1-104-665-11	ELECT	100uF	20%	10V
C703	1-104-664-11	ELECT	47uF	20%	10V
C704	1-164-159-11	CERAMIC	0.1uF		50V
C705	1-161-494-00	CERAMIC	0.022uF		25V
C706	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN101	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CN601	1-784-927-11	PIN, CONNECTOR 12P			
CN602	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CN701	1-793-351-21	SOCKET, CONNECTOR 19P			
* CN702	1-568-935-11	PIN, CONNECTOR 8P			
		< DIODE >			
D601	8-719-911-19	DIODE 1SS133T-72			
D602	8-719-911-19	DIODE 1SS133T-72			

Ref. No.	Part No.	Description			Remark
D603	8-719-911-19	DIODE 1SS133T-72			
D604	8-719-210-21	DIODE 11EQS04-NTA2B			
D611	8-719-947-16	DIODE MTZJ-T-72-5.1A			
D621	8-719-024-99	DIODE 11ES2-NTA2B			
D622	8-719-024-99	DIODE 11ES2-NTA2B			
D623	8-719-024-99	DIODE 11ES2-NTA2B			
D624	8-719-024-99	DIODE 11ES2-NTA2B			
D701	8-719-911-19	DIODE 1SS133T-72			
		< IC >			
IC101	8-759-143-54	IC uPC1330HA			
IC201	8-759-111-44	IC uPC4570C-1			
IC401	8-759-495-26	IC HA12215F			
IC601	8-759-822-09	IC LB1641			
IC602	8-759-088-08	IC uPC7812AHF			
IC603	8-759-039-69	IC uPC7805AHF			
IC604	8-759-604-86	IC M5F7807L			
IC605	8-759-604-90	IC M5F7907L			
IC701	8-759-684-70	IC M38513M4-C59FP			
IC702	8-759-635-63	IC M51943BSL-TP			
		< COIL >			
L311	1-410-092-31	INDUCTOR	27MH		
L361	1-410-092-31	INDUCTOR	27MH		
L501	1-414-193-41	INDUCTOR	220uH		
L502	1-414-193-41	INDUCTOR	220uH		
		< TRANSISTOR >			
Q501	8-729-801-93	TRANSISTOR 2SD1387-34-TP			
Q502	8-729-142-46	TRANSISTOR 2SC2001TP-LK			
Q503	8-729-142-46	TRANSISTOR 2SC2001TP-LK			
Q601	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q602	8-729-116-59	TRANSISTOR 2SB1068TP			
Q603	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q604	8-729-140-04	TRANSISTOR 2SB1116-TP-LK			
Q701	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q702	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q703	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q704	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q705	8-729-422-57	TRANSISTOR BN1A4M-TP			
		< RESISTOR >			
R101	1-249-433-11	CARBON	22K	5%	1/4W
R203	1-249-409-11	CARBON	220	5%	1/4W F
R204	1-249-409-11	CARBON	220	5%	1/4W F
R211	1-247-881-00	CARBON	120K	5%	1/4W
R212	1-249-409-11	CARBON	220	5%	1/4W F
R213	1-249-433-11	CARBON	22K	5%	1/4W
R214	1-247-889-00	CARBON	270K	5%	1/4W
R215	1-249-430-11	CARBON	12K	5%	1/4W
R216	1-247-807-31	CARBON	100	5%	1/4W
R261	1-247-881-00	CARBON	120K	5%	1/4W
R262	1-249-409-11	CARBON	220	5%	1/4W F
R263	1-249-433-11	CARBON	22K	5%	1/4W
R264	1-247-889-00	CARBON	270K	5%	1/4W
R265	1-249-430-11	CARBON	12K	5%	1/4W
R266	1-247-807-31	CARBON	100	5%	1/4W
R311	1-249-430-11	CARBON	12K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R312	1-249-433-11	CARBON	22K	5%	1/4W
R361	1-249-430-11	CARBON	12K	5%	1/4W
R362	1-249-433-11	CARBON	22K	5%	1/4W
R401	1-249-435-11	CARBON	33K	5%	1/4W
R402	1-249-421-11	CARBON	2.2K	5%	1/4W F
R405	1-247-807-31	CARBON	100	5%	1/4W
R406	1-249-429-11	CARBON	10K	5%	1/4W
R407	1-249-428-11	CARBON	8.2K	5%	1/4W F
R408	1-249-425-11	CARBON	4.7K	5%	1/4W F
R409	1-249-433-11	CARBON	22K	5%	1/4W
R410	1-247-862-11	CARBON	20K	5%	1/4W
R411	1-247-903-00	CARBON	1M	5%	1/4W
R412	1-247-884-11	CARBON	160K	5%	1/4W
R413	1-247-886-11	CARBON	200K	5%	1/4W
R415	1-249-429-11	CARBON	10K	5%	1/4W
R416	1-249-432-11	CARBON	18K	5%	1/4W
R417	1-249-429-11	CARBON	10K	5%	1/4W
R418	1-249-417-11	CARBON	1K	5%	1/4W F
R419	1-247-893-11	CARBON	390K	5%	1/4W
R424	1-249-429-11	CARBON	10K	5%	1/4W
R451	1-249-435-11	CARBON	33K	5%	1/4W
R452	1-249-421-11	CARBON	2.2K	5%	1/4W F
R455	1-247-807-31	CARBON	100	5%	1/4W
R456	1-249-429-11	CARBON	10K	5%	1/4W
R457	1-249-428-11	CARBON	8.2K	5%	1/4W F
R458	1-249-425-11	CARBON	4.7K	5%	1/4W F
R459	1-249-435-11	CARBON	33K	5%	1/4W
R501	1-249-428-11	CARBON	8.2K	5%	1/4W F
R502	1-249-422-11	CARBON	2.7K	5%	1/4W F
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-432-11	CARBON	18K	5%	1/4W
R506	1-249-432-11	CARBON	18K	5%	1/4W
⚠R507	1-212-851-00	FUSIBLE	5.6	5%	1/4W
⚠R508	1-212-851-00	FUSIBLE	5.6	5%	1/4W
R601	1-249-437-11	CARBON	47K	5%	1/4W
R602	1-249-417-11	CARBON	1K	5%	1/4W F
R605	1-249-415-11	CARBON	680	5%	1/4W F
R606	1-249-421-11	CARBON	2.2K	5%	1/4W F
R607	1-249-416-11	CARBON	820	5%	1/4W F
R609	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-249-433-11	CARBON	22K	5%	1/4W
R611	1-249-409-11	CARBON	220	5%	1/4W F
R612	1-249-421-11	CARBON	2.2K	5%	1/4W F
R613	1-249-421-11	CARBON	2.2K	5%	1/4W F
R701	1-249-417-11	CARBON	1K	5%	1/4W F
R702	1-249-425-11	CARBON	4.7K	5%	1/4W F
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-429-11	CARBON	10K	5%	1/4W
R707	1-249-435-11	CARBON	33K	5%	1/4W
R708	1-249-435-11	CARBON	33K	5%	1/4W
R709	1-249-429-11	CARBON	10K	5%	1/4W
R712	1-249-401-11	CARBON	47	5%	1/4W F
R713	1-249-401-11	CARBON	47	5%	1/4W F
R714	1-249-439-11	CARBON	68K	5%	1/4W
R715	1-249-429-11	CARBON	10K	5%	1/4W
R716	1-247-807-31	CARBON	100	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

MAIN PANEL

Ref. No.	Part No.	Description				Remark
		< VARIABLE RESISTOR >				
RV211	1-241-762-11	RES, ADJ, CARBON 2.2K				
RV261	1-241-762-11	RES, ADJ, CARBON 2.2K				
RV311	1-241-767-21	RES, ADJ, CARBON 100K				
RV361	1-241-767-21	RES, ADJ, CARBON 100K				
RV362	1-241-759-11	RES, ADJ, CARBON 220				
RV401	1-241-764-11	RES, ADJ, CARBON 10K				
RV451	1-241-764-11	RES, ADJ, CARBON 10K				
		< TRANSFORMER >				
T501	1-423-980-11	TRANSFORMER, BIAS OSCILLATION				
		< VIBRATOR >				
X701	1-579-125-11	VIBRATOR, CERAMIC (8MHz)				
**********						
	1-678-669-11	PANEL BOARD				
		**********				
		< DIODE >				
D911	8-719-057-97	DIODE SEL5923A-TP15 (▯▯)				
D912	8-719-058-03	DIODE SEL5423E-TP15 (◁)				
D913	8-719-058-03	DIODE SEL5423E-TP15 (▷)				
D914	8-719-058-04	DIODE SEL5223S-TP15 (● REC)				
D915	8-719-058-04	DIODE SEL5223S-TP15 (CD SYNC REC)				
		< RESISTOR >				
R901	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R902	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R903	1-249-429-11	CARBON	10K	5%	1/4W	
R904	1-249-431-11	CARBON	15K	5%	1/4W	
R905	1-249-433-11	CARBON	22K	5%	1/4W	
R906	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R907	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R908	1-249-429-11	CARBON	10K	5%	1/4W	
R909	1-249-431-11	CARBON	15K	5%	1/4W	
R911	1-249-411-11	CARBON	330	5%	1/4W	
R912	1-249-411-11	CARBON	330	5%	1/4W	
R913	1-249-411-11	CARBON	330	5%	1/4W	
R914	1-249-411-11	CARBON	330	5%	1/4W	
R915	1-249-411-11	CARBON	330	5%	1/4W	
		< SWITCH >				
S901	1-771-410-21	SWITCH, TACTILE (● REC)				
S902	1-771-410-21	SWITCH, TACTILE (CD SYNC REC)				
S903	1-771-410-21	SWITCH, TACTILE (DOLBY NR)				
S904	1-771-410-21	SWITCH, TACTILE (DIRECTION)				
S905	1-771-410-21	SWITCH, TACTILE (◁)				
S906	1-771-410-21	SWITCH, TACTILE (▷)				
S907	1-771-410-21	SWITCH, TACTILE (▯▯)				
S908	1-771-410-21	SWITCH, TACTILE (□)				
S909	1-771-410-21	SWITCH, TACTILE (⏮ ◀◀)				
S910	1-771-410-21	SWITCH, TACTILE (▶▶ ▷▷⏭)				
S911	1-771-410-21	SWITCH, TACTILE (⏏)				
**********						

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-792-923-11	CORD (WITH CONNECTOR) (AEP,UK,AED)	
	4-230-237-11	MANUAL, INSTRUCTION (ENGLISH) (AEP,UK,AED)	
	4-230-237-21	MANUAL, INSTRUCTION (FRENCH,SPANISH) (AEP,UK,AED)	
	4-230-237-31	MANUAL, INSTRUCTION (GERMAN,DUTCH) (AEP,UK,AED)	
	4-230-237-41	MANUAL, INSTRUCTION (ITALIAN,PORTUGUSE,SWEDISH) (AEP,UK,AED)	

SS-CSP55

SERVICE MANUAL

AEP Model
UK Model
E Model

This set is the speaker system
in CMT-SP55MD/SP55TC.

SPECIFICATIONS

Speaker system :	2-way, bass-reflex type
Speaker units	
Woofer:	12 cm dia., glass-fiber cone type
Tweeter:	2.5 cm dia., soft dome type
Nominal impedance	8 ohms
Dimensions (w/h/d) incl. projecting parts and controls	Approx. 170 x 275 x230 mm
Mass :	Approx. 3.4 kg net per speaker
Supplied accessories	Speaker cords (2)

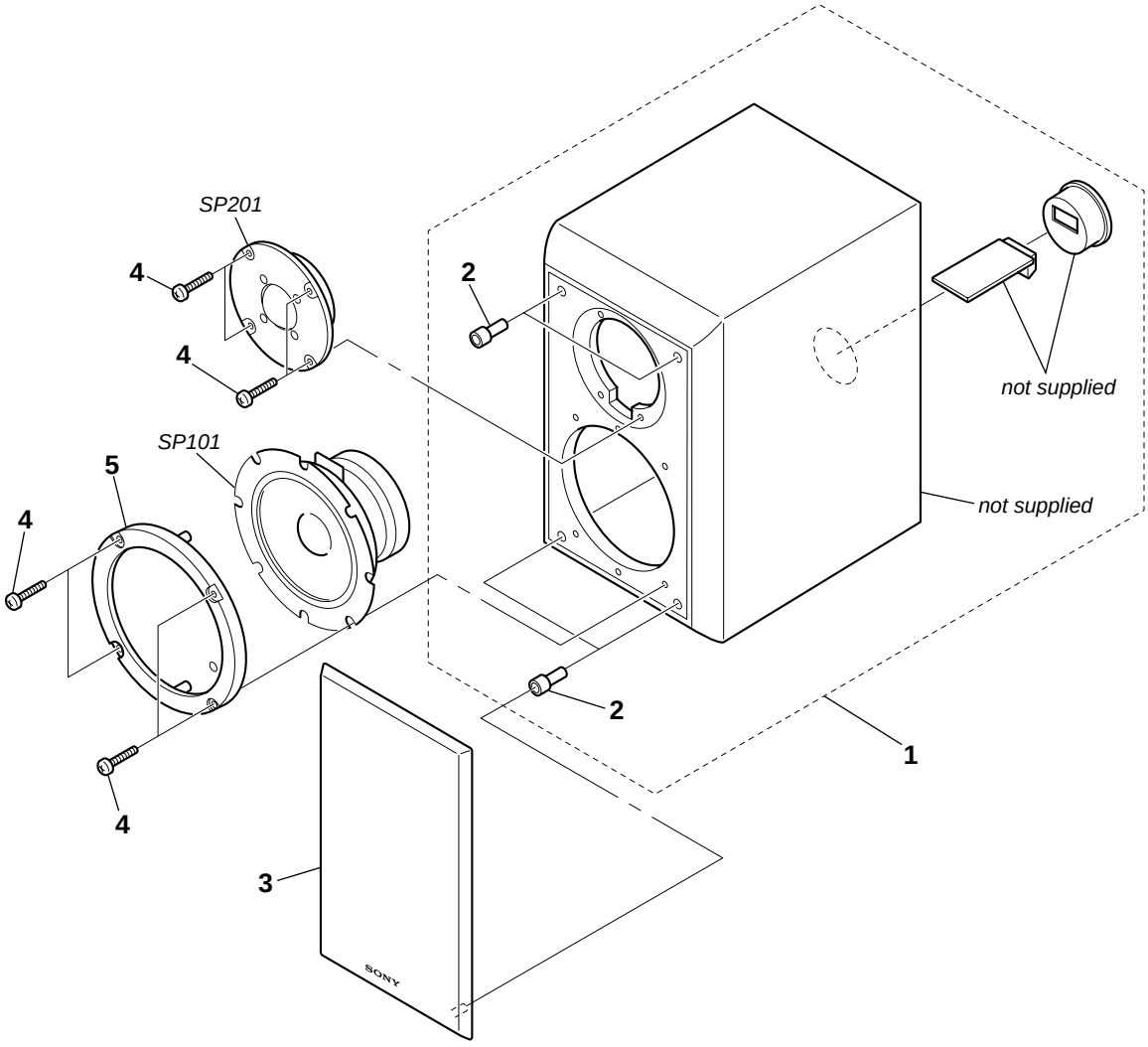
Design and specification are subject to change without notice.

SPEAKER SYSTEM

SONY

EXPLODED VIEW AND PARTS LIST

NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.



Ref. No.	Part No.	Description	Remark
1	A-4412-254-A	CABINET ASSY, SPEAKER	
2	4-963-075-21	CATCHER	
3	A-4412-224-A	FRAME ASSY, GRILLE	
4	4-874-614-51	SCREW (4) (3.5X20), TAPPING	
5	4-228-872-01	RING. ORNAMENTAL	
SP101	1-529-748-11	SPEAKER (12 cm)	
SP201	1-529-749-11	SPEAKER (2.5 cm)	

****

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-757-422-11	CORD SPEAKER (1.5 m)	

ST-SP55

SERVICE MANUAL

AEP Model
UK Model
E Model

ST-SP55 is the tuner section
in CMT-SP55MD or CMT-SP55TC.

SPECIFICATIONS

FM stereo, FM/AM superheterodyne tuner

Input

AUX IN (phono jacks): voltage 250 mV, impedance 47 kilohms

Output

AUX OUT (phono jacks): voltage 250 mV, impedance 1 kilohm

FM tuner section

Tuning range	87.5 – 108.0 MHz (50 kHz step)
Aerial	FM lead aerial
Aerial terminals	300 ohms unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range

European model:	531 – 1,602 kHz (with the interval set at 9 kHz)
Other models:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
Aerial	AM loop aerial External aerial terminals
Intermediate frequency	450 kHz

General

Dimensions (w/h/d) incl. projecting parts and controls	Approx. 202 × 75 × 291 mm
Mass	Approx. 1.3 kg

Design and specifications are subject to change without notice.

MICRO Hi-Fi COMPONENT SYSTEM

SONY

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SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICE NOTE

This unit cannot be repaired by itself.
When repairing, connect the whole system except for the speaker.

CD Text Display

- This unit displays CD text.
  Text is displayed for the first 50 track only and will not be displayed from the 51st track onwards. Do not suspect a fault in this case.
  In some cases, some special characters will not be displayed and may be replaced by other characters. Do not suspect a fault in this case.

Cold Reset

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and ▶▶▷▷‖ buttons (CDP) together.
2. "COLD RESET" is displayed on the fluorescent indicator tube and reset is executed.

Hot Reset

- This mode reset the preset data kept in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and ‖◁◁◀◀ buttons (CDP) together.
2. Turn off the unit and reset is executed.

GC Test Mode

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and PLAY MODE buttons (CDP) together.
2. LCD are all turned on.
3. Press TUNING MODE button (ST) to enter the model destination indecation mode. "SP55 CE2" or "SP55 ASIA2" appears.
4. Every pressing of TUNING MODE button (ST) changes the display in the following order.
   MC Version → CD Version → ST Version → TC Version → TA Version → TM Version → model destination display.
5. Press DISPLAY button (ST) and the date appears as " 00615a "
   Every pressing of DISPLAY button (ST) changes the display in the Version display and model destination display.
6. Press TUNER/BAND button (ST) to enter the key check mode.
7. In the key check mode, the fluorescent indicator tube displays "Key 0 Vol 0". Each time a button is pressed, "Key" value increases. However, once a button is pressed, it is no longer taken into account.
   "Vol" Value increases like "1, 2, 3 ..." if rotating VOLUME knob (TA) in the clockwise direction, or decreases like "0, 9, 8 ..." if rotating in the counterclockwise diretion.
8. To exit from this mode, disconnect the power cord.

SECTION 2
GENERAL

1 (Remote sensor)
2 Display window
3 TUNING +/– button
4 TUNER/BAND button
5 TUNING MODE button
6 DISPLAY button

SECTION 3
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B + : B+ Line.
- B − : B– Line.
- ▭ : adjustment for repair.
- no mark : FM
  ✻ : Can not be measured.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ⇨ : CD
  ⇨ : TAPE
  ⇨ : REC (TAPE/MD)
  ⇨ : MD
- Abbreviation
  MY : Malaysia model.
  SP : Singapore model.
  HK : Hong Kong model.
  KR : Korea model.
  AED : North European model.

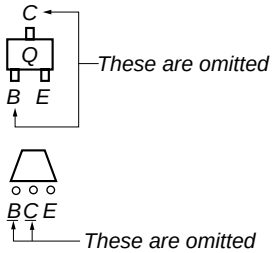
For printed wiring boards.

Note:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

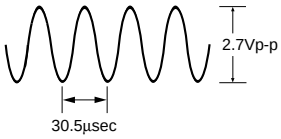
• Indication of transistor



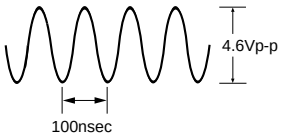
• WAVEFORMS

– MAIN BOARD –

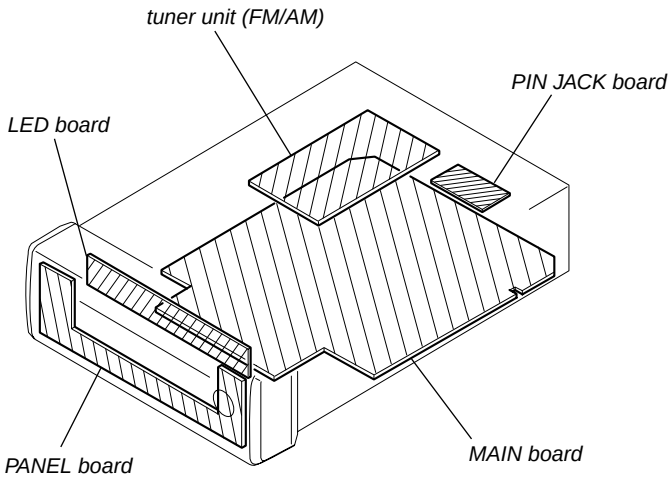
① IC701 ⑪ XCOUT



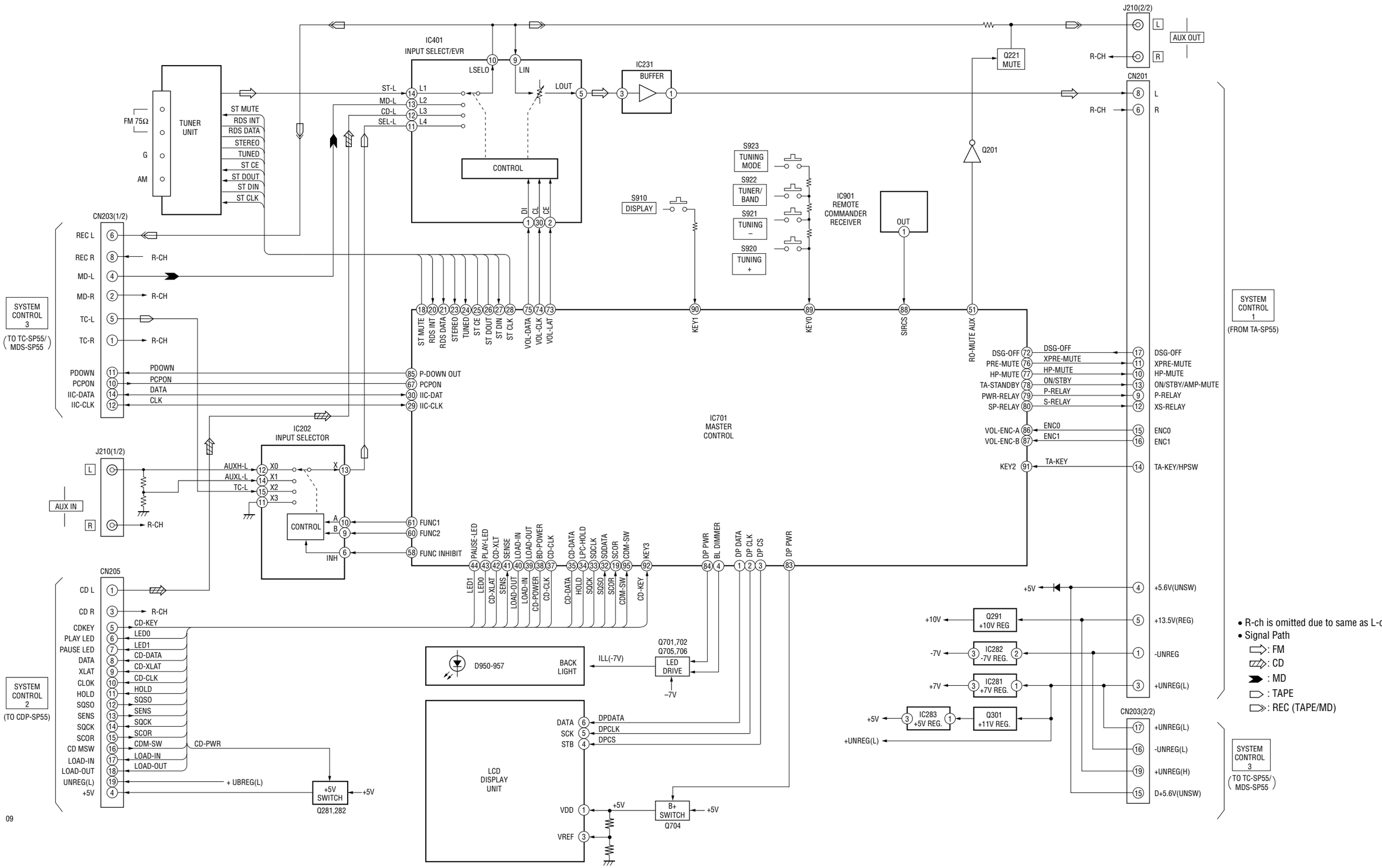
② IC701 ⑬ XOUT



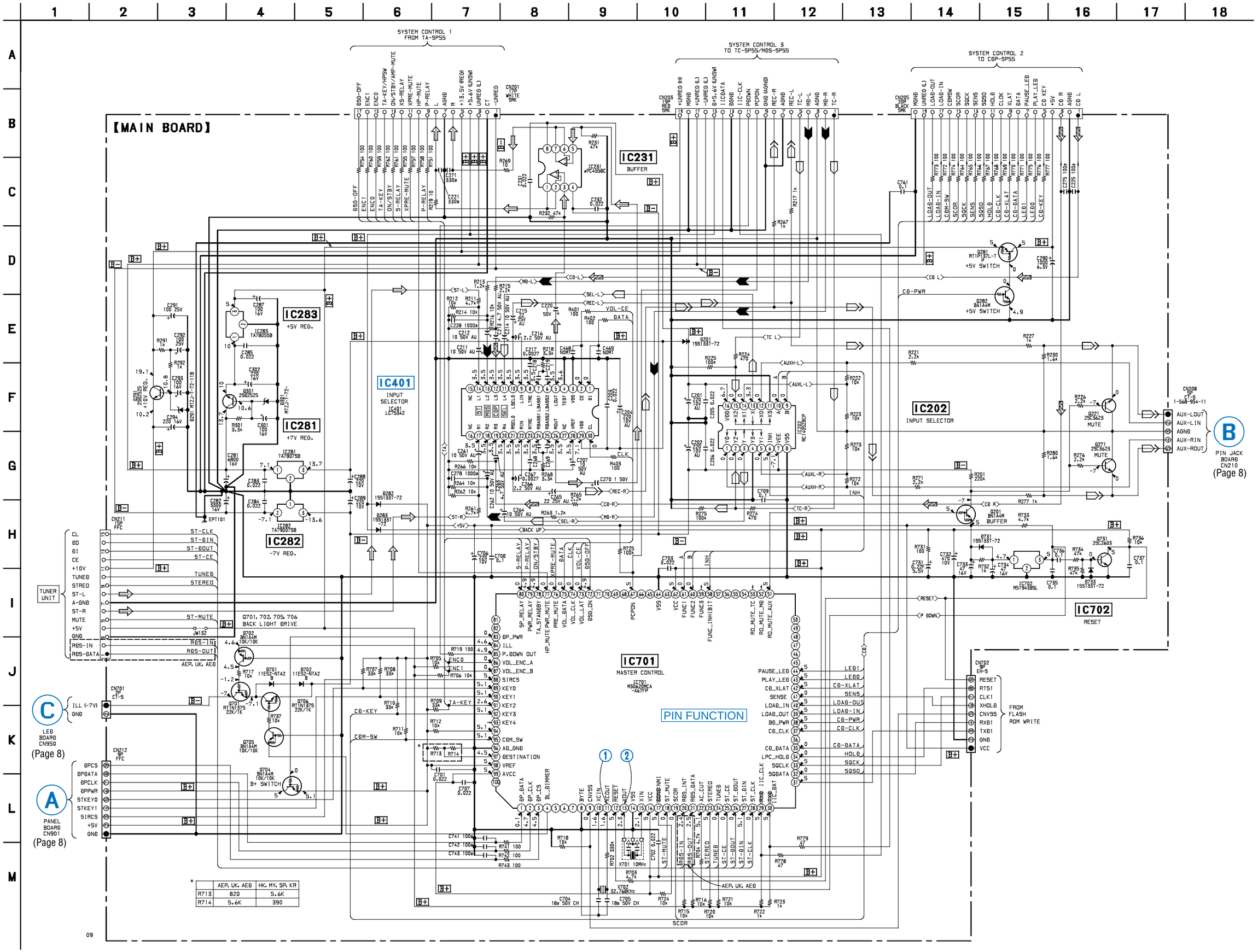
3-1. CIRCUIT BOARDS LOCATION



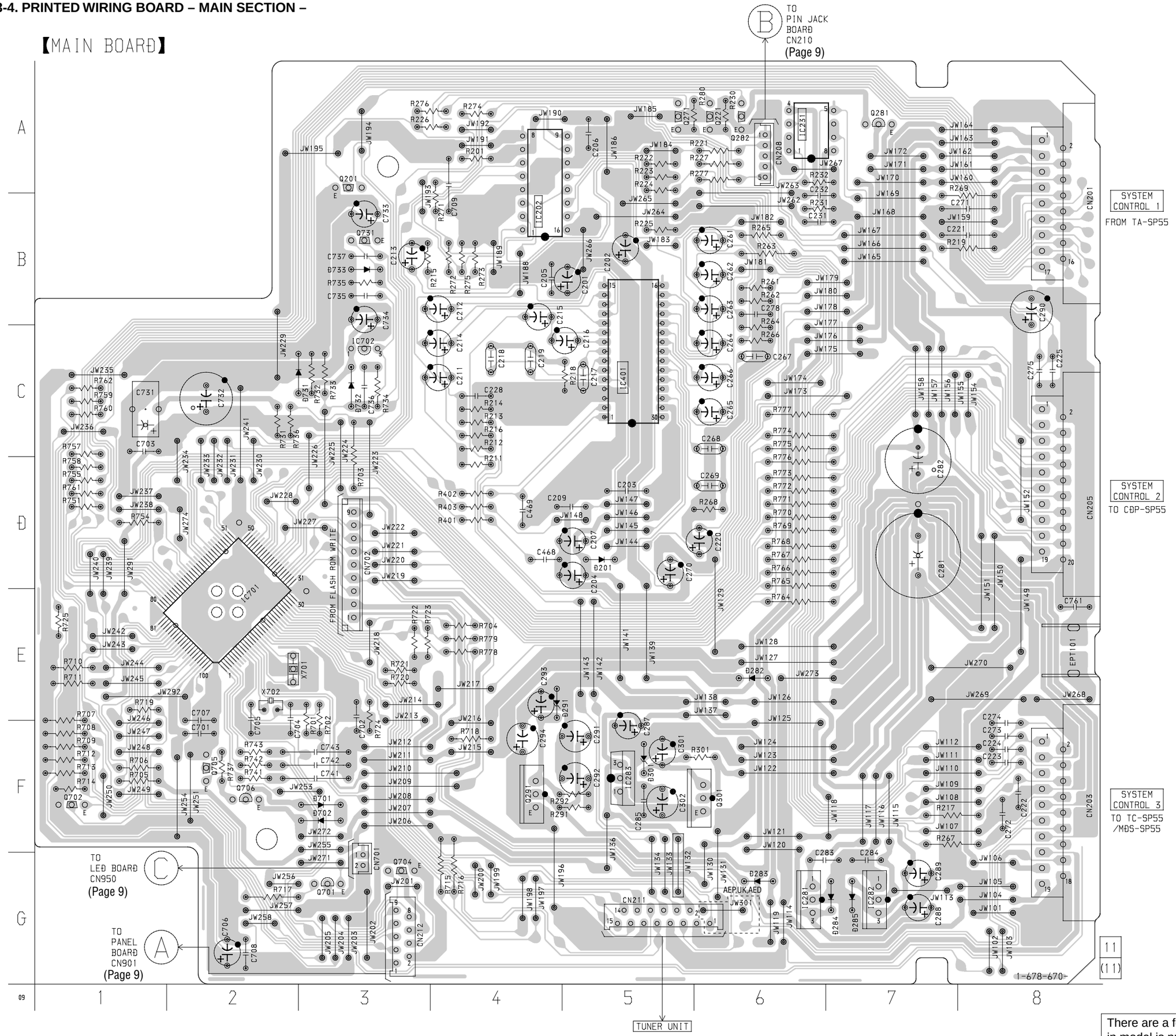
3-2. BLOCK DIAGRAM



3-3. SCHEMATIC DIAGRAM – MAIN SECTION –



3-4. PRINTED WIRING BOARD – MAIN SECTION –

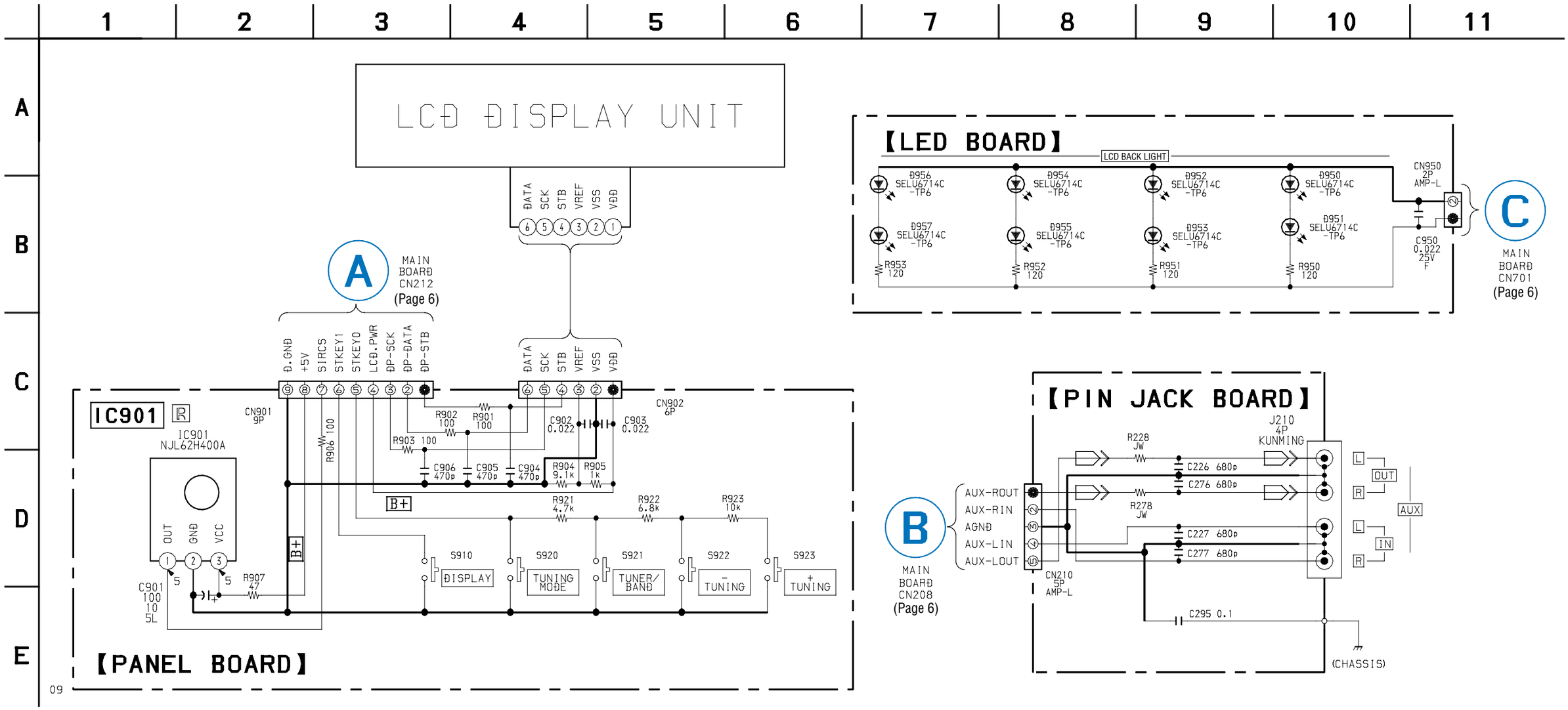


- **Semiconductor Location**

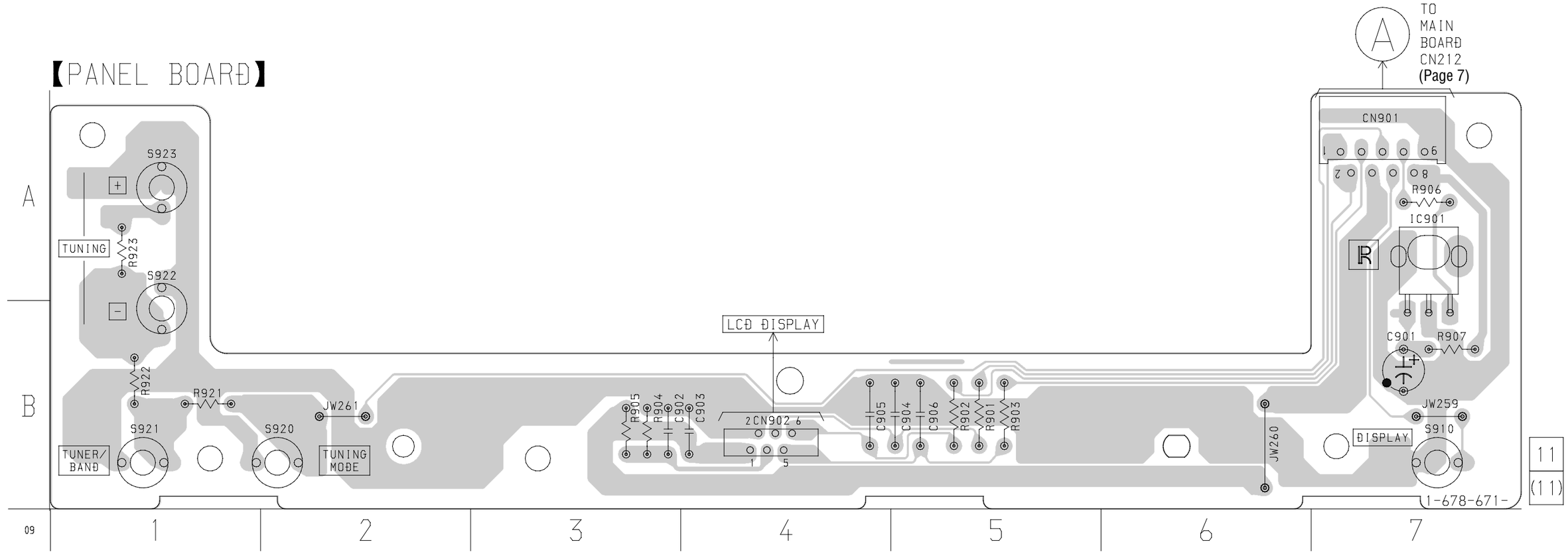
Ref. No.	Location
D201	D-5
D282	E-6
D283	G-6
D291	E-4
D301	F-5
D701	F-3
D702	F-3
D731	C-2
D733	C-3
IC202	B-4
IC231	A-6
IC281	G-6
IC282	G-7
IC283	F-5
IC401	C-5
IC701	E-2
IC702	C-3
Q201	B-3
Q221	A-6
Q271	A-5
Q281	A-7
Q282	A-6
Q291	F-4
Q301	F-5
Q701	G-3
Q702	F-1
Q704	G-3
Q705	F-2
Q706	F-2
Q731	B-3

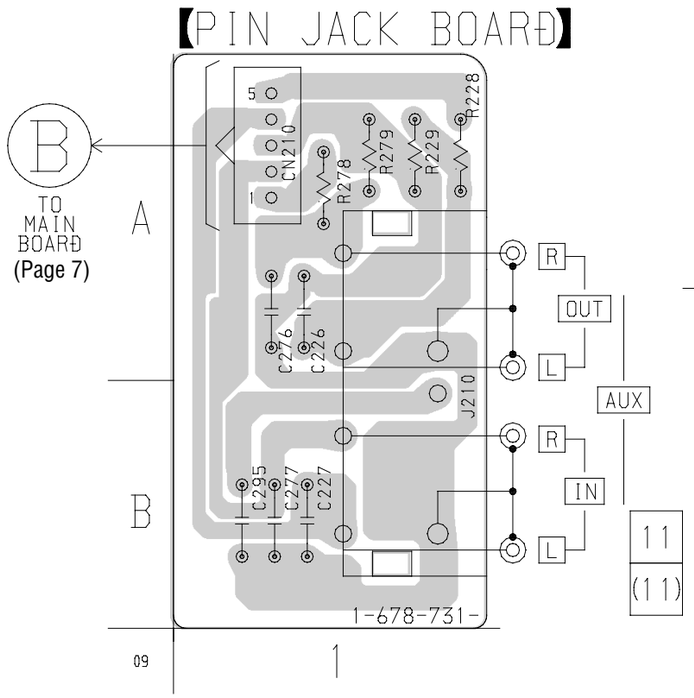
There are a few cases that the part isn't mounted in model is printed on diagram.

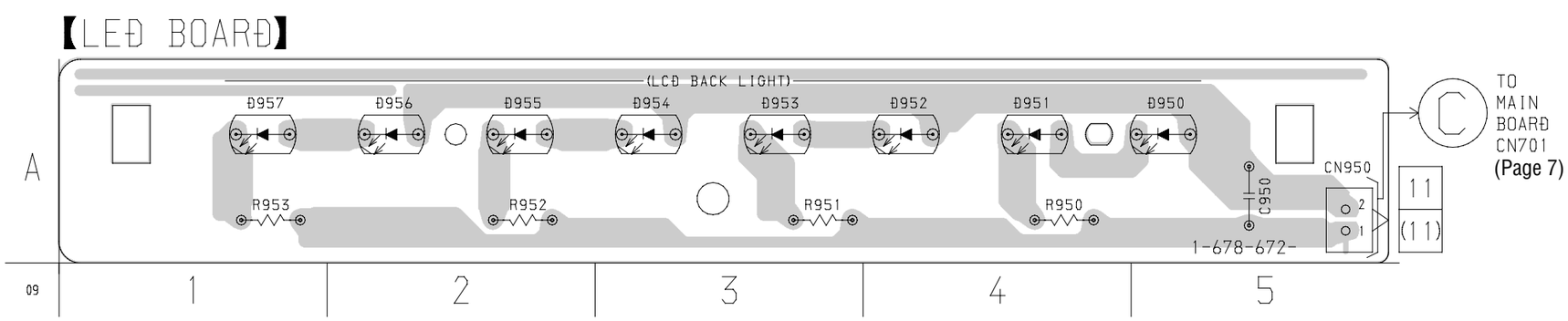
3-5. SCHEMATIC DIAGRAM – PANEL SECTION –



3-6. PRINTED WIRING BOARD – PANEL SECTION –







There are a few cases that the part isn't mounted in model is printed on diagram.

3-7. IC PIN FUNCTIONS

• IC701 M30620MCA-A67FP MASTER CONTROL (MAIN BOARD)

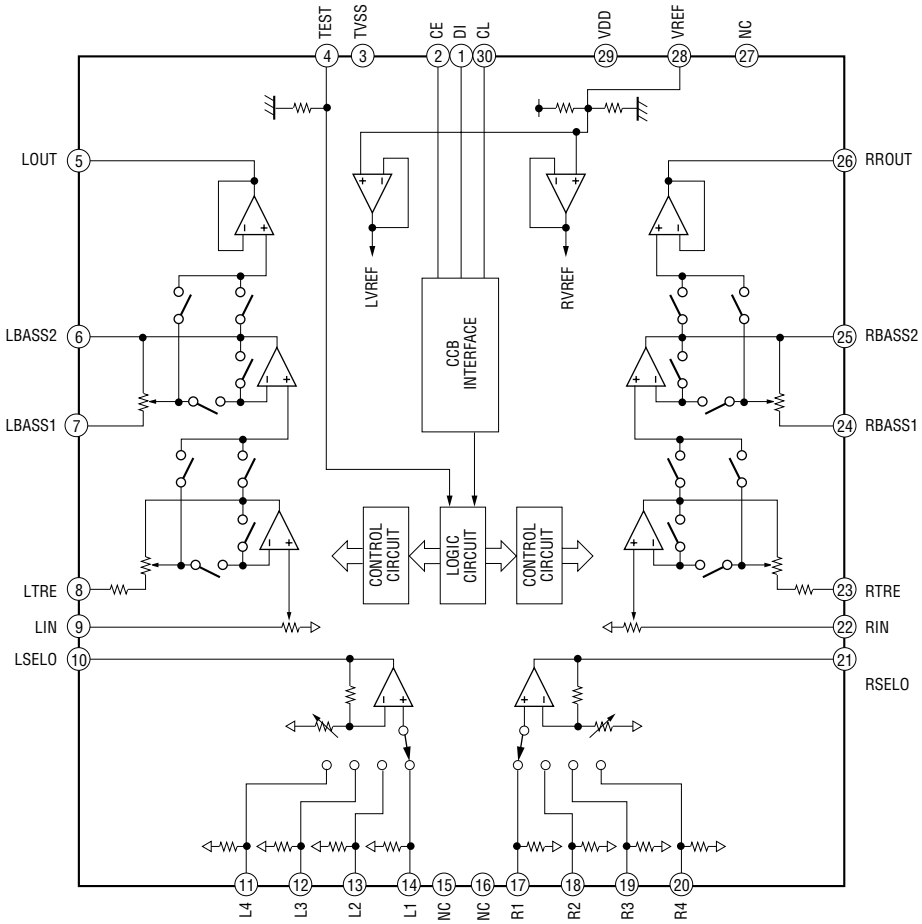
Pin No.	Pin Name		Function
1	DP_DATA	O	LCD data output.
2	DP_CLK	O	LCD clock output.
3	DP_CS	O	LCD chip STB signal output.
4	BL_DIMMER	O	LCD back light bright signal output. (H: BRIGHT, L: DARK)
5	N.C	—	Not used.
6	N.C	—	Not used.
7	N.C	—	Not used.
8	BYTE	—	Connected to ground.
9	GND	—	Connected to ground.
10	XC IN	I	SUB CLOCK input. (32.768kHz)
11	XC OUT	O	SUB CLOCK output. (32.768kHz)
12	$\overline{\text{RESET}}$	I	System master reset input.
13	X-OUT	O	MAIN SYSTEM CLOCK output. (10MHz)
14	VSS	—	Ground
15	X-IN	I	MAIN SYSTEM CLOCK input. (10MHz)
16	VCC	—	Power supply. (EVER +5V)
17	NMI	I	PULL UP (EVER +5V)
18	ST_MUTE	O	ST MUTE singal output.
19	SCOR	I	CD Q-data request signal input.
20	RDS-INT	I	RDS clock signal input.
21	RDS-DATA	I	RDS data signal input.
22	AC OUT	I	TA AC interrupt signal input. (H: AC ON, L: AC OFF)
23	STEREO	I	ST STEREO signal input. (L: STEREO)
24	TUNED	I	ST TUNED signal input. (L: TUNED)
25	ST_CE	O	ST PLL chip enable signal output.
26	ST_DOUT	O	ST PLL data signal output.
27	ST_DIN	I	ST PLL data signal input.
28	ST_CLK	O	ST PLL clock output.
29	IIC_CLK	I/O	IIC SCL output.
30	IIC_DAT	I/O	IIC SDA output.
31	TXD1	—	Not used.
32	SQ DATA	I	CD SUBQ data input.
33	SQ CLK	O	CD SUBQ clock output.
34	LPC_HOLD	O	CD LPC hold output.
35	CD_DATA	O	CD data signal output.
36	N.C	I	Not used.
37	CD_CLK	O	CD clock output.
38	BD_PWR	O	CD_BD power control signal output. (H: ON, L: OFF)
39	LOAD_OUT	O	CD loading motor control signal output.
40	LOAD_IN	O	CD loading motor control signal output.
41	SENSE	I	CD SENSE signal input.
42	CD_XLAT	O	CD XLAT signal output.
43	PLAY_LED	O	CD PLAY LED signal output. (H: OFF, L: ON)
44	PAUSE_LED	O	CD PAUSE LED signal output. (H: OFF, L: ON)
45 to 50	N.C	—	Not used.
51	RO_MUTE_AUX	O	AUX out mute signal output. (H: MUTE OFF, L: MUTE)
52 to 57	N.C	—	Not used.
58	FUNC_INHIBIT	O	TA input select inhibit signal. (H: INHIBIT, L: NOT INHIBIT)
59	N.C	O	Not used.
60	FUNC2	O	TA input select signal output.
61	FUNC1	O	TA input select signal output.
62	VCC	—	Power Supply (EVER +5V)
63	N.C	—	Not used.
64	VSS	—	Ground.
65	N.C	—	Not used.
66	N.C	—	Not used.
67	PCPON	I	Power ON signal from PC.
68 to 71	N.C	—	Not used.
72	DSG_ON	O	TA DSG off control signal output. (H: DSG OFF, L: DSG ON)
73	VOL_LAT	O	ST, “(IC401)” Volume latch.
74	VOL_CLK	O	ST, “(IC401)” Volume clock.
75	VOL_DATA	O	ST, “(IC401)” Volume data signal output.
76	PRE_MUTE	O	TA PRE MUTE signal output. (H: MUTE OFF, L: MUTE ON)
77	XHP_MUTE	O	TA headphone MUTE signal output. (H: MUTE OFF, L: MUTE ON)
78	ON/$\overline{\text{STANDBY}}$	O	TA Power amp MUTE/Standby LED signal output. (H: ON, L: STANDBY)
79	PWR_RELAY	O	TA Standby relay signal output. (H: RELAY OFF, L: RELAY)
80	SP_RELAY	O	TA Speaker relay signal output.
81	N.C	—	Not used.
82	N.C	—	Not used.
83	DP_PWR	O	LCD power ON/OFF signal output. (H: OFF, L: ON)
84	ILL	O	LCD backlight ON/OFF signal output. (H: ON, L: OFF)
85	P_DOWN OUT	O	MD/TC power control signal output. (H: POW ON, L: STANDBY)
86	VOL_ENC_A	I	TA Volume encoder (A) signal input.
87	VOL_ENC_B	I	TA Volume encoder (B) signal input.
88	SIRCS	I	RM SIRCS signal input.
89	KEY0	I	KEY A/D input. (For ST)
90	KEY1	I	KEY A/D input. (For ST)
91	KEY2	I	KEY A/D input. (For TA)
92	KEY3	I	KEY A/D input. (For CDP)
93	NC	—	Not used.
94	NC	I	Not used (pull up).
95	CDM_SW	I	CD Loading switch input.
96	AD_GND	—	Analog ground.
97	DISTINATION	I	Distination signal input.
98	VREF	—	Analog Reference Voltage.
99	AVCC	—	Analog Power Supply.
100	NC	—	Not used.

INH	A	B	SEL	FUNC
L	L	L	0	AUX (H)
L	H	L	1	AUX (L)
L	L	H	2	TAPE
L	H	H	3	GND
H	X	X	NONE	NONE

10

3-8. IC BLOCK DIAGRAM

IC401 LC75342



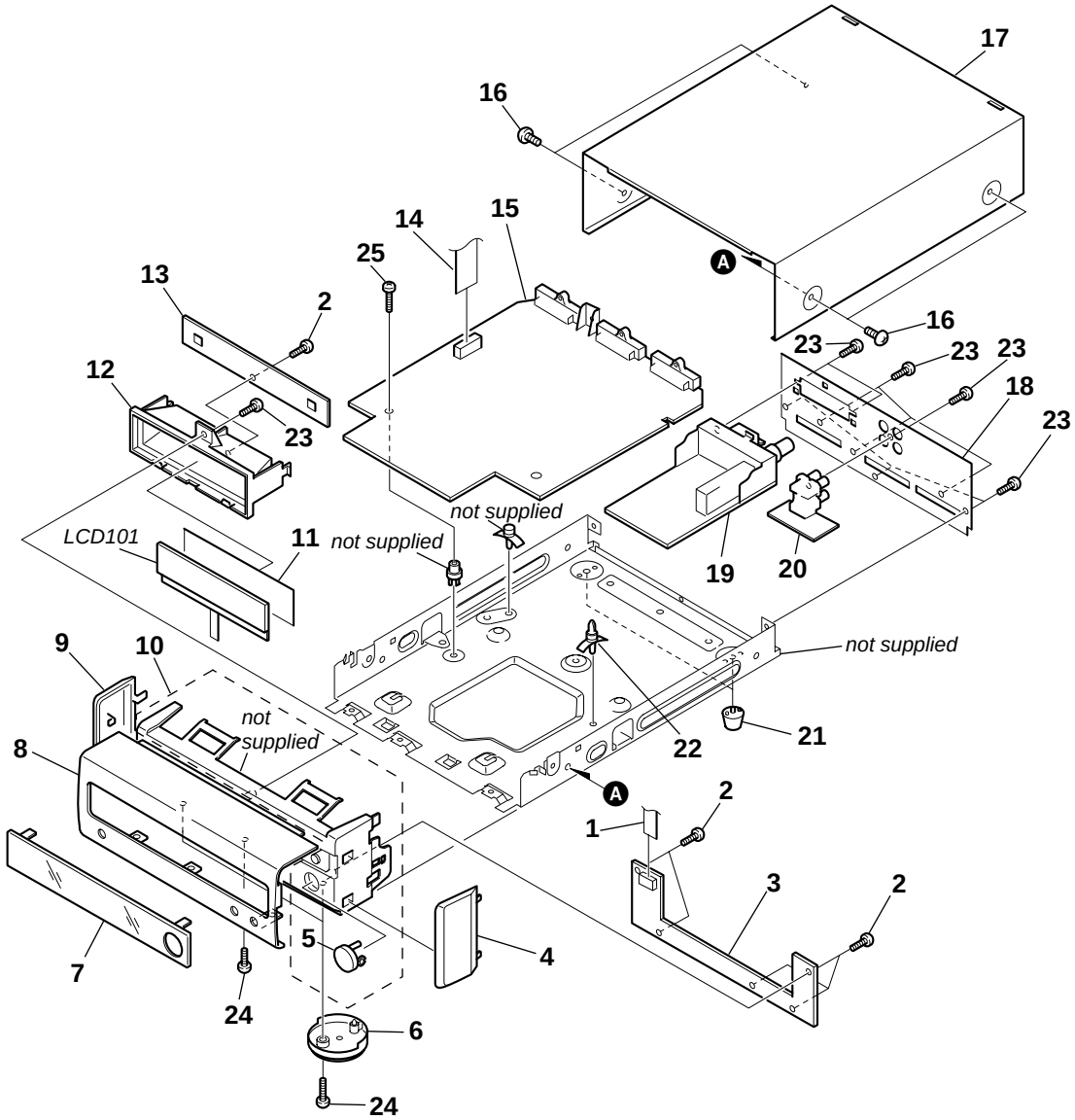
SECTION 4
EXPLODED VIEW

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  AED : North European model
  MY : Malasia model
  SP : Singapore model
  HK : Hong Kong model
  KR : Korea model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

4-1. CASE AND FRONT PANEL



Ref. No.	Part No.	Description	Remarks
1	1-769-916-11	WIRE (FLAT TYPE) (9 CORE)	
2	4-951-620-01	SCREW (2.6X8), +BVTP	
3	1-678-671-11	PANEL BOARD	
4	4-229-683-01	PLATE (R), SIDE	
5	4-229-678-01	BUTTON (U/D)	
6	X-4953-027-1	FOOT ASSY	
7	4-229-677-01	WINDOW (LCD)	
8	4-229-676-01	PANEL (ST), FRONT (AEP,UK,AED)	
8	4-229-676-11	PANEL (ST), FRONT (HK,MY,SP,KR)	
9	4-229-684-01	PLATE (L), SIDE	
10	X-4953-022-1	PANEL ASSY (ST), SUB	
11	4-229-680-01	ILLUMINATOR	
12	4-229-679-01	HOLDER, LCD	
13	1-678-672-11	LED BOARD	
14	1-769-970-11	WIRE (FLAT TYPE) (13 CORE) (HK,MY,SP,KR)	
14	1-773-002-11	WIRE (FLAT TYPE) (15 CORE) (AEP,UK,AED)	

Ref. No.	Part No.	Description	Remarks
15	A-4424-804-A	MAIN BOARD, COMPLETE (AEP,UK,AED)	
15	A-4473-725-A	MAIN BOARD, COMPLETE (HK,MY,SP,KR)	
16	3-363-099-51	SCREW (CASE 3 TP2)	
17	4-229-687-11	CASE	
18	4-229-686-01	PANEL, BACK (AEP,UK,AED)	
18	4-229-686-21	PANEL, BACK (HK,MY,SP)	
18	4-229-686-31	PANEL, BACK (KR)	
19	1-693-482-11	TUNER (FM/AM) (HK,MY,SP,KR)	
19	1-693-499-11	TUNER (FM/AM) (AEP,UK,AED)	
20	1-678-673-11	PIN JACK BOARD	
21	4-965-822-01	FOOT	
22	4-924-098-11	HOLDER, PC BOARD	
23	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
24	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
25	7-685-650-79	SCREW +BVTP 3X16 TYPE2 N-S	
LCD101	1-804-056-11	DISPLAY PANEL, LIQUID CRYSTAL	

SECTION 5
ELECTRICAL PARTS LIST

LED **MAIN**

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  AED : North European model
  MY : Malasia model
  SP : Songapore model
  HK : Hong Kong model
  KR : Korea model

Ref. No.	Part No.	Description				Remarks
	1-678-672-11	LED BOARD				
		********				
		< CAPACITOR >				
C950	1-161-494-00	CERAMIC	0.022uF			25V
		< DIODE >				
D950	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D951	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D952	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D953	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D954	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D955	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D956	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D957	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
		< RESISTOR >				
R950	1-249-406-11	CARBON	120	5%	1/4W	F
R951	1-249-406-11	CARBON	120	5%	1/4W	F
R952	1-249-406-11	CARBON	120	5%	1/4W	F
R953	1-249-406-11	CARBON	120	5%	1/4W	F
**********						
	A-4424-804-A	MAIN BOARD, COMPLETE (AEP,UK,AED)				
		********				
	A-4473-725-A	MAIN BOARD, COMPLETE (HK,MY,SP,KR)				
		********				
		< CAPACITOR >				
C201	1-128-832-11	ELECT	220uF	20%	10V	
C202	1-128-832-11	ELECT	220uF	20%	10V	
C203	1-161-494-00	CERAMIC	0.022uF		25V	
C204	1-128-832-11	ELECT	220uF	20%	10V	
C205	1-161-494-00	CERAMIC	0.022uF		25V	
C206	1-161-494-00	CERAMIC	0.022uF		25V	
C207	1-119-824-11	ELECT MELF	10uF	20%	50V	
C211	1-119-824-11	ELECT MELF	10uF	20%	50V	
C212	1-119-824-11	ELECT MELF	10uF	20%	50V	
C213	1-119-823-11	ELECT	4.7uF	20%	50V	
C214	1-119-824-11	ELECT MELF	10uF	20%	50V	
C215	1-128-858-91	ELECT	22uF	20%	25V	
C216	1-119-821-11	ELECT MELF	2.2uF	20%	50V	
C217	1-130-476-00	MYLAR	0.0027uF	5%	50V	
C218	1-136-177-00	MYLAR	1uF	5%	50V	

Ref. No.	Part No.	Description			Remarks
C219	1-136-177-00	MYLAR	1uF	5%	50V
C220	1-119-820-11	ELECT	1uF	20%	50V
C221	1-162-288-31	CERAMIC	330uF	10%	50V
C225	1-162-282-31	CERAMIC	100PF	10%	50V
C227	1-162-288-31	CERAMIC	330uF	10%	50V
C228	1-162-294-31	CERAMIC	0.001uF	10%	50V
C231	1-161-494-00	CERAMIC	0.022uF		25V
C232	1-161-494-00	CERAMIC	0.022uF		25V
C261	1-119-824-11	ELECT MELF	10uF	20%	50V
C262	1-119-824-11	ELECT MELF	10uF	20%	50V
C263	1-119-823-11	ELECT	4.7uF	20%	50V
C264	1-119-824-11	ELECT MELF	10uF	20%	50V
C265	1-128-858-91	ELECT	22uF	20%	25V
C266	1-119-821-11	ELECT MELF	2.2uF	20%	50V
C267	1-130-476-00	MYLAR	0.0027uF	5%	50V
C268	1-136-177-00	MYLAR	1uF	5%	50V
C269	1-136-177-00	MYLAR	1uF	5%	50V
C270	1-119-820-11	ELECT	1uF	20%	50V
C275	1-162-282-31	CERAMIC	100PF	10%	50V
C278	1-162-294-31	CERAMIC	0.001uF	10%	50V
C281	1-128-547-11	ELECT	6800uF	20%	16V
C282	1-126-936-11	ELECT	3300uF	20%	16V
C283	1-161-494-00	CERAMIC	0.022uF		25V
C284	1-161-494-00	CERAMIC	0.022uF		25V
C285	1-161-494-00	CERAMIC	0.022uF		25V
C287	1-126-933-11	ELECT	100uF	20%	16V
C288	1-126-934-11	ELECT	220uF	20%	10V
C289	1-126-934-11	ELECT	220uF	20%	10V
C290	1-126-916-11	ELECT	1000uF	20%	6.3V
C291	1-104-665-11	ELECT	100uF	20%	25V
C292	1-104-665-11	ELECT	100uF	20%	25V
C293	1-126-933-11	ELECT	100uF	20%	16V
C294	1-126-934-11	ELECT	220uF	20%	16V
C301	1-126-933-11	ELECT	100uF	20%	16V
C302	1-126-934-11	ELECT	220uF	20%	16V
C701	1-161-494-00	CERAMIC	0.022uF		25V
C702	1-161-494-00	CERAMIC	0.022uF		25V
C703	1-161-494-00	CERAMIC	0.022uF		25V
C704	1-162-205-31	CERAMIC	18PF	5%	50V
C705	1-162-205-31	CERAMIC	18PF	5%	50V
C706	1-126-934-11	ELECT	220uF	20%	10V
C707	1-161-494-00	CERAMIC	0.022uF		25V
C708	1-164-159-11	CERAMIC	0.1uF		50V
C709	1-164-159-11	CERAMIC	0.1uF		50V
C731	1-125-507-11	CAPACITOR	0.22F		5.5V

MAIN

Ref. No.	Part No.	Description			Remarks
C732	1-126-925-11	ELECT	470uF	20%	10V
C733	1-104-664-11	ELECT	47uF	20%	16V
C734	1-104-664-11	ELECT	47uF	20%	16V
C735	1-164-159-11	CERAMIC	0.1uF		50V
C736	1-164-159-11	CERAMIC	0.1uF		50V
C737	1-164-159-11	CERAMIC	0.1uF		50V
C741	1-162-282-31	CERAMIC	100PF	10%	50V
C742	1-162-282-31	CERAMIC	100PF	10%	50V
C743	1-162-282-31	CERAMIC	100PF	10%	50V
C761	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN201	1-569-624-11	SOCKET, CONNECTOR 17P			
CN203	1-793-351-21	SOCKET, CONNECTOR 19P			
CN205	1-794-498-11	SOCKET, CONNECTOR 20P			
* CN208	1-568-954-11	PIN, CONNECTOR 5P			
CN211	1-784-776-11	CONNECTOR, FFC 15P (AEP,UK,AED)			
CN211	1-784-774-11	CONNECTOR, FFC 13P (HK,MY,SP,KR)			
CN212	1-568-828-11	CONNECTOR, FFC 9P			
CN701	1-568-951-11	PIN, CONNECTOR 2P			
* CN702	1-564-512-11	PLUG, CONNECTOR 9P			
		< DIODE >			
D201	8-719-911-19	DIODE 1SS133T-72			
D282	8-719-911-19	DIODE 1SS133T-72			
D283	8-719-911-19	DIODE 1SS133T-72			
D291	8-719-921-80	DIODE MTZJ-T-72-11B			
D301	8-719-947-48	DIODE MTZJ-T-72-11A			
D701	8-719-024-99	DIODE 11ES2-NTA2B			
D702	8-719-024-99	DIODE 11ES2-NTA2B			
D731	8-719-911-19	DIODE 1SS133T-72			
D733	8-719-911-19	DIODE 1SS133T-72			
		< IC >			
IC202	8-759-000-48	IC MC14052BCP			
IC231	8-759-705-58	IC NJM4558D-D			
IC281	8-759-373-82	IC TA7807SB			
IC282	8-759-373-94	IC TA79007SB			
IC283	8-759-373-79	IC TA7805SB			
IC401	8-759-669-03	IC LC75342			
IC701	8-759-681-71	IC M30620MCA-A67FP			
IC702	8-759-635-63	IC M51943BSL-TP			
		< TRANSISTOR >			
Q201	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q221	8-729-141-30	TRANSISTOR 2SC3623ATP-LK			
Q271	8-729-141-30	TRANSISTOR 2SC3623ATP-LK			
Q281	8-729-040-20	TRANSISTOR RT1P137L-TP			
Q282	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q291	8-729-026-68	TRANSISTOR 2SD2525(TP)			
Q301	8-729-026-68	TRANSISTOR 2SD2525(TP)			
Q701	8-729-049-80	TRANSISTOR RTIN137S-TP			
Q702	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q704	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q705	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q706	8-729-049-80	TRANSISTOR RTIN137S-TP			
Q731	8-729-620-05	TRANSISTOR 2SC2603TP-EF			
		< RESISTOR >			
R201	1-247-887-00	CARBON	220K	5%	1/4W
R211	1-249-425-11	CARBON	4.7K	5%	1/4W F
R212	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R213	1-249-418-11	CARBON	1.2K	5%	1/4W F
R214	1-249-429-11	CARBON	10K	5%	1/4W
R215	1-249-421-11	CARBON	2.2K	5%	1/4W F
R216	1-249-429-11	CARBON	10K	5%	1/4W
R217	1-249-417-11	CARBON	1K	5%	1/4W F
R218	1-247-843-11	CARBON	3.3K	5%	1/4W
R219	1-249-393-11	CARBON	10	5%	1/4W F
R221	1-249-421-11	CARBON	2.2K	5%	1/4W F
R222	1-249-429-11	CARBON	10K	5%	1/4W
R223	1-249-429-11	CARBON	10K	5%	1/4W
R224	1-249-413-11	CARBON	470	5%	1/4W F
R225	1-249-441-11	CARBON	100K	5%	1/4W
R226	1-249-421-11	CARBON	2.2K	5%	1/4W F
R227	1-249-417-11	CARBON	1K	5%	1/4W F
R230	1-247-836-11	CARBON	1.6K	5%	1/4W
R231	1-249-437-11	CARBON	47K	5%	1/4W
R232	1-249-437-11	CARBON	47K	5%	1/4W
R261	1-249-425-11	CARBON	4.7K	5%	1/4W F
R262	1-249-429-11	CARBON	10K	5%	1/4W
R263	1-249-418-11	CARBON	1.2K	5%	1/4W F
R264	1-249-429-11	CARBON	10K	5%	1/4W
R265	1-249-421-11	CARBON	2.2K	5%	1/4W F
R266	1-249-429-11	CARBON	10K	5%	1/4W
R267	1-249-417-11	CARBON	1K	5%	1/4W F
R268	1-247-843-11	CARBON	3.3K	5%	1/4W
R269	1-249-393-11	CARBON	10	5%	1/4W F
R271	1-249-421-11	CARBON	2.2K	5%	1/4W F
R272	1-249-429-11	CARBON	10K	5%	1/4W
R273	1-249-429-11	CARBON	10K	5%	1/4W
R274	1-249-413-11	CARBON	470	5%	1/4W F
R275	1-249-441-11	CARBON	100K	5%	1/4W
R276	1-249-421-11	CARBON	2.2K	5%	1/4W F
R277	1-249-417-11	CARBON	1K	5%	1/4W F
R280	1-247-836-11	CARBON	1.6K	5%	1/4W
R291	1-249-417-11	CARBON	1K	5%	1/4W F
R292	1-249-417-11	CARBON	1K	5%	1/4W F
R301	1-247-843-11	CARBON	3.3K	5%	1/4W F
R401	1-247-807-31	CARBON	100	5%	1/4W
R402	1-247-807-31	CARBON	100	5%	1/4W
R403	1-247-807-31	CARBON	100	5%	1/4W
R702	1-247-891-00	CARBON	330K	5%	1/4W
R703	1-249-425-11	CARBON	4.7K	5%	1/4W F
R704	1-249-425-11	CARBON	4.7K	5%	1/4W F
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-429-11	CARBON	10K	5%	1/4W
R707	1-249-435-11	CARBON	33K	5%	1/4W
R708	1-249-435-11	CARBON	33K	5%	1/4W
R709	1-249-435-11	CARBON	33K	5%	1/4W
R710	1-249-435-11	CARBON	33K	5%	1/4W
R711	1-249-429-11	CARBON	10K	5%	1/4W
R712	1-249-429-11	CARBON	10K	5%	1/4W
R713	1-249-416-11	CARBON	820	5%	1/4W F (AEP,UK,AED)
R713	1-249-426-11	CARBON	5.6K	5%	1/4W (HK,MY,SP,KR)
R714	1-249-412-11	CARBON	390	5%	1/4W F (HK,MY,SP,KR)
R714	1-249-426-11	CARBON	5.6K	5%	1/4W (AEP,UK,AED)
R715	1-249-429-11	CARBON	10K	5%	1/4W
R716	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R717	1-249-429-11	CARBON	10K	5%	1/4W
R718	1-249-429-11	CARBON	10K	5%	1/4W
R719	1-247-807-31	CARBON	100	5%	1/4W
R720	1-249-429-11	CARBON	10K	5%	1/4W
R721	1-249-429-11	CARBON	10K	5%	1/4W
R722	1-249-417-11	CARBON	1K	5%	1/4W F
R723	1-249-417-11	CARBON	1K	5%	1/4W F
R724	1-249-429-11	CARBON	10K	5%	1/4W
R725	1-249-441-11	CARBON	100K	5%	1/4W
R731	1-247-807-31	CARBON	100	5%	1/4W
R732	1-249-417-11	CARBON	1K	5%	1/4W F
R733	1-249-425-11	CARBON	4.7K	5%	1/4W F
R734	1-249-437-11	CARBON	47K	5%	1/4W
R735	1-249-437-11	CARBON	47K	5%	1/4W
R736	1-249-429-11	CARBON	10K	5%	1/4W
R737	1-249-429-11	CARBON	10K	5%	1/4W
R741	1-247-807-31	CARBON	100	5%	1/4W
R742	1-247-807-31	CARBON	100	5%	1/4W
R743	1-247-807-31	CARBON	100	5%	1/4W
R751	1-247-807-31	CARBON	100	5%	1/4W
R754	1-247-807-31	CARBON	100	5%	1/4W
R755	1-247-807-31	CARBON	100	5%	1/4W
R757	1-247-807-31	CARBON	100	5%	1/4W
R758	1-247-807-31	CARBON	100	5%	1/4W
R759	1-247-807-31	CARBON	100	5%	1/4W
R760	1-247-807-31	CARBON	100	5%	1/4W
R761	1-247-807-31	CARBON	100	5%	1/4W
R762	1-247-807-31	CARBON	100	5%	1/4W
R764	1-247-807-31	CARBON	100	5%	1/4W
R765	1-247-807-31	CARBON	100	5%	1/4W
R766	1-247-807-31	CARBON	100	5%	1/4W
R767	1-247-807-31	CARBON	100	5%	1/4W
R768	1-247-807-31	CARBON	100	5%	1/4W
R769	1-247-807-31	CARBON	100	5%	1/4W
R770	1-247-807-31	CARBON	100	5%	1/4W
R771	1-247-807-31	CARBON	100	5%	1/4W
R772	1-247-807-31	CARBON	100	5%	1/4W
R773	1-247-807-31	CARBON	100	5%	1/4W
R774	1-247-807-31	CARBON	100	5%	1/4W
R775	1-247-807-31	CARBON	100	5%	1/4W
R776	1-247-807-31	CARBON	100	5%	1/4W
R777	1-247-807-31	CARBON	100	5%	1/4W
R778	1-249-401-11	CARBON	47	5%	1/4W F
R779	1-249-401-11	CARBON	47	5%	1/4W F
		< VIBRATOR >			
X701	1-579-175-11	VIBRATOR, CERAMIC (10MHz)			
X702	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)			
**********					
	1-678-671-11	PANEL BOARD			
		**********			
		< CAPACITOR >			
C901	1-124-584-00	ELECT	100uF	20%	10V
C902	1-161-494-00	CERAMIC	0.022uF		25V
C903	1-161-494-00	CERAMIC	0.022uF		25V
C904	1-162-290-31	CERAMIC	470PF	10%	50V
C905	1-162-290-31	CERAMIC	470PF	10%	50V
C906	1-162-290-31	CERAMIC	470PF	10%	50V

Ref. No.	Part No.	Description			Remarks
		< CONNECTOR >			
CN901	1-784-731-11	CONNECTOR, FFC 9P			
CN902	1-580-471-11	SOCKET, CONNECTOR 6P			
		< IC >			
IC901	8-749-016-97	IC NJL62H400A (REMOTE SENSOR)			
		< RESISTOR >			
R901	1-247-807-31	CARBON	100	5%	1/4W
R902	1-247-807-31	CARBON	100	5%	1/4W
R903	1-247-807-31	CARBON	100	5%	1/4W
R904	1-247-854-11	CARBON	9.1K	5%	1/4W
R905	1-249-417-11	CARBON	1K	5%	1/4W F
R906	1-247-807-31	CARBON	100	5%	1/4W
R907	1-249-401-11	CARBON	47	5%	1/4W F
R921	1-249-425-11	CARBON	4.7K	5%	1/4W F
R922	1-249-427-11	CARBON	6.8K	5%	1/4W F
R923	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S910	1-771-410-21	SWITCH, TACTILE (DISPLAY)			
S920	1-771-410-21	SWITCH, TACTILE (TUNING MODE)			
S921	1-771-410-21	SWITCH, TACTILE (TUNER/BAND)			
S922	1-771-410-21	SWITCH, TACTILE (-TUNING)			
S923	1-771-410-21	SWITCH, TACTILE (+TUNING)			
**********					
	1-678-673-11	PIN JACK BOARD			
		**********			
		< CAPACITOR >			
C226	1-162-292-31	CERAMIC	680PF	10%	50V
C227	1-162-292-31	CERAMIC	680PF	10%	50V
C276	1-162-292-31	CERAMIC	680PF	10%	50V
C277	1-162-292-31	CERAMIC	680PF	10%	50V
C295	1-164-159-11	CERAMIC	0.1uF		50V
		< JACK >			
J210	1-695-188-31	JACK, PIN 4P (AUX IN/OUT)			
**********					
		MISCELLANEOUS			
		**********			
1	1-769-916-11	WIRE (FLAT TYPE) (9 CORE)			
14	1-769-970-11	WIRE (FLAT TYPE) (13 CORE) (HK,MY,SP,KR)			
14	1-773-002-11	WIRE (FLAT TYPE) (15 CORE) (AEP,UK,AED)			
19	1-693-482-11	TUNER (FM/AM) (HK,MY,SP,KR)			
19	1-693-499-11	TUNER (FM/AM) (AEP,UK,AED)			
LCD101	1-804-056-11	DISPLAY PANEL, LIQUID CRYSTAL			

9-929-536-11

Sony Corporation
Audio Entertainment Group

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TC-SP55

SERVICE MANUAL

AEP Model
UK Model
E Model

Ver 1.1 2001.03

TC-SP55 is the deck section in CMT-SP55TC, and TC-SP55 is sold in the option as a tape deck of CMT-SP55MD.

This stereo system is equipped with the Dolby* B-type noise reduction system.
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡⊡ are trademarks of the Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	CMAL2Z720A

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	(DOLBY NR OFF) 40 – 14,000 Hz (±3 dB) using Sony TYPE I cassettes 40 – 15,000 Hz (±3 dB), using Sony TYPE II cassettes

General

Dimensions (w/h/d) incl. projecting parts and controls	Approx. 202 x 101 x 283 mm
Mass	Approx. 1.9 kg
Supplied accessory	System cable (1)

Design and specifications are subject to change without notice.

STEREO CASSETTE DECK

9-929-539-12
2001C0900-1
© 2001.3

Sony Corporation
Audio Entertainment Group
General Engineering Dept.

SONY®

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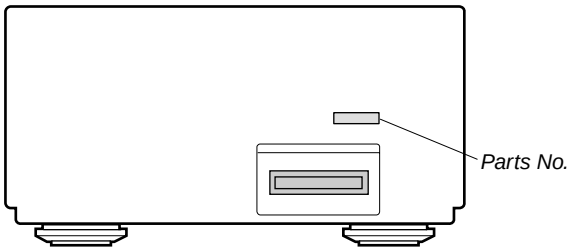
MODEL IDENTIFICATION

— BACK PANEL —



MODEL	PARTS No.
AEP, UK, AED models	4-229-654-0☐
MY, SP models	4-229-654-2☐
KR model	4-229-654-3☐

- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model
  KR : Korean model

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTE

This unit cannot be repaired by itself.
When repairing, connect the whole system except for the speaker.

Cold Reset

- When the AC cord is removed, COLD RESET is done with TC-SP55.

ST Test Mode

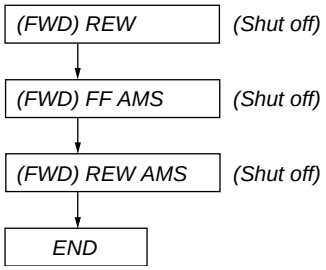
Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and PLAY MODE buttons (CDP) together.
2. LCD are all turned on.
3. Press TUNING MODE button (ST) to enter the model destination indecation mode. “SP55 CE2” or “SP55 ASIA2” appears.
4. Every pressing of TUNING MODE button (ST) changes the display in the following order.
   MC Version ⟶ CD Version ⟶ ST Version ⟶ TC Version ⟶ TA Version ⟶ TM Version ⟶ model destination display.
5. Press DISPLAY button (ST) and the date appears as “ 00615a ”
   Every pressing of DISPLAY button (ST) changes the display in the Version display and model destination display.
6. Press TUNER/BAND button (ST) to enter the key check mode.
7. In the key check mode, the fluorescent indicator tube displays “Key 0 Vol 0”. Each time a button is pressed, “Key” value increases. However, once a button is pressed, it is no longer taken into account.
   “Vol” Value increases like “1, 2, 3 ...” if rotating VOLUME knob (TA) in the clockwise direction, or decreases like “0, 9, 8 ...” if rotating in the counterclockwise diretion. (The TC-SP55 is not count.)
8. To exit from this mode, disconnect the power cord.

MC Test Mode

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing TUNING MODE button (ST) and REPEAT button (CDP) together.
2. Frame of the MD mark and the CD mark flash, and “BASS/TRE FLAT” appears for a moment.
3. When the VOLUME knob (TA) is turned clockwise, “VOLUME MAX” appears for a moment.
4. When the VOLUME knob (TA) is turned counterclockwise, “VOLUME MIN” appears for a moment.
5. Select the function “TAPE” using the FUNCTION knob (TA).
   Set the test tape AMS-110A or AMS-120.
6. Press DIRECTION button (TC) to enter either “⟲” (loop) or “⇄” (two way).
7. Press the CD SYNC REC button (TC) to start the AMS test.



8. Number of AMS signals is counted during the AMS test and the message “EDG#” (# means a number) appears. When the test tape either AMS-110A or AMS-120 is used, the AMS signal is detected twice before shut off.
9. When the AMS test ends, either “OK” or “NG” appears.
10. To exit the MC test mode, either press the I/⏻ button (TA) or perform the cold reset as described above.

Aging Mode

• Mode for repeating operations of the CD player and TC deck automatically.

When errors occur:

Aging stops and a message indicating that an error has occurred such as “CD MEC ERR” is displayed.
(For details of errors, refer to “Error History Display Mode”.)

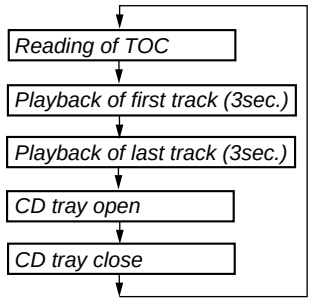
When no errors occur:

Aging is repeatedly performed.

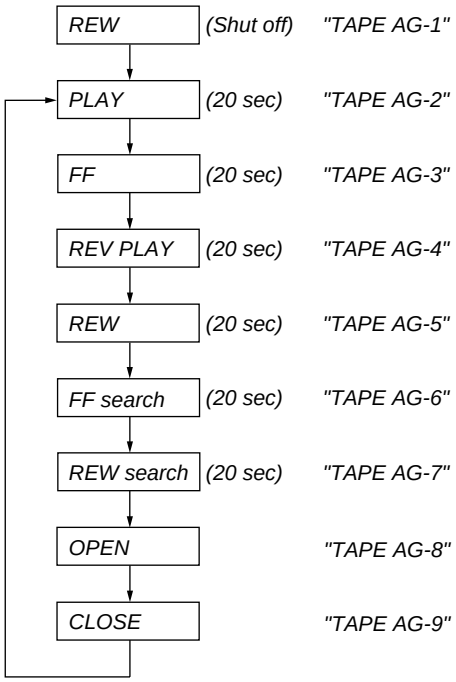
Procedure:

1. Load any CD and a tape.
2. Select the function “CD” using the FUNCTION knob (TA).
3. While pressing the TUNING MODE button (ST) and ▷ button (CDP), press the I/⏻ button (TA).
4. “AGING” is displayed on the LCD briefly.
5. Operations are performed in the following sequence during aging.
   Every pressing of DISPLAY button (ST) changes the display in the CD display and TAPE display.

CD :



Cassette :



6. To end aging, execute the cold reset.

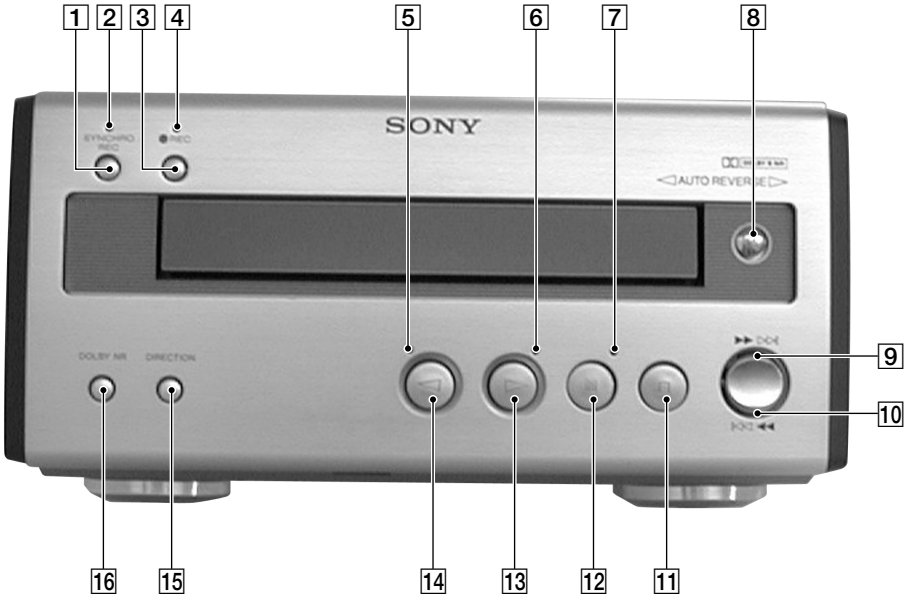
Error History Display Mode

Mode for checking the history of errors which have occurred in the CD player.
Execute this mode after ending the aging mode.

Procedure:

1. Select the function “CD” using the FUNCTION knob (TA).
2. While pressing the TUNING MODE button (ST) and ▯▯ button (CDP), press the I/⏻ button (TA).
3. “EMC@@EDC**” id displayed.
   @@: Number of mechanism errors (Last 3 errors)
   ** : Number of errors (NO DISC ERROR) which occurred after chucking (Last 3 errors)
4. To end, press the I/⏻ button (TA) and turn OFF the power.
5. To erase the error history, perform cold reset.
   (While pressing the TUNING MODE button (ST) and ▶▶ ▷▷▯ button (CDP), press the I/⏻ button.)

SECTION 2
GENERAL



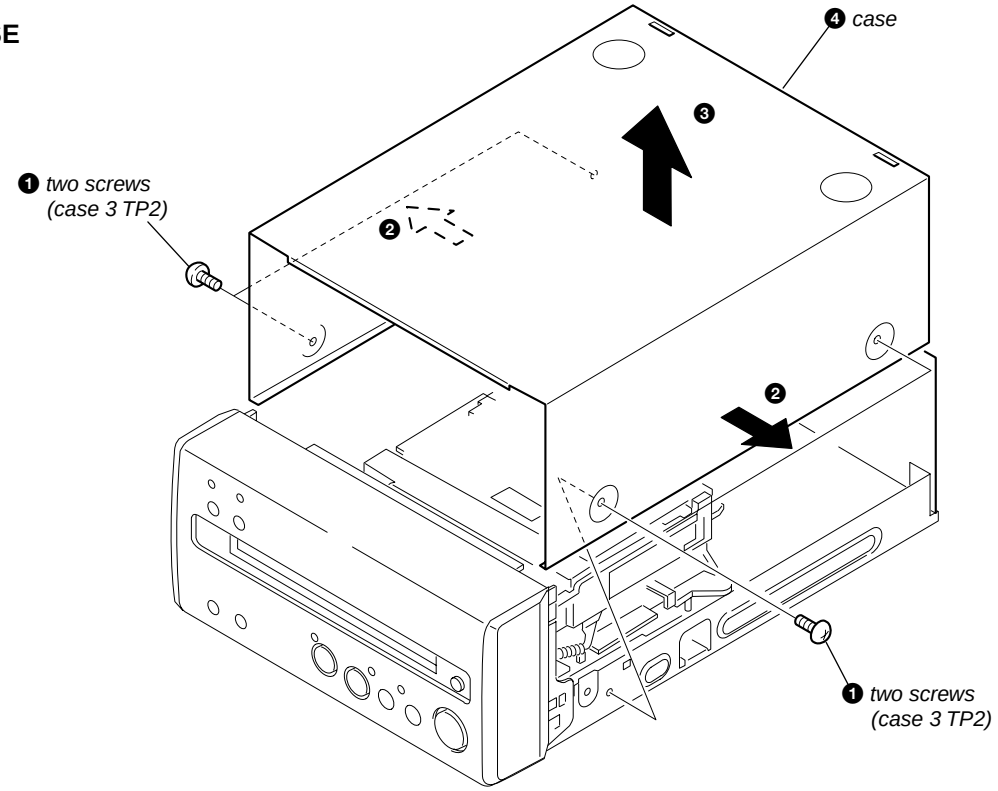
1	CD SYNC REC button	9	▶▶ ▷▷I button
2	CD SYNC REC indicator	10	I◁◁ ◀◀ button
3	● REC button	11	□ button
4	● REC indicator	12	II button
5	◁ indicator	13	▷ button
6	▷ indicator	14	◁ button
7	II indicator	15	DIRECTION button
8	⏏ button	16	DOLBY NR button

SECTION 3
DISASSEMBLY

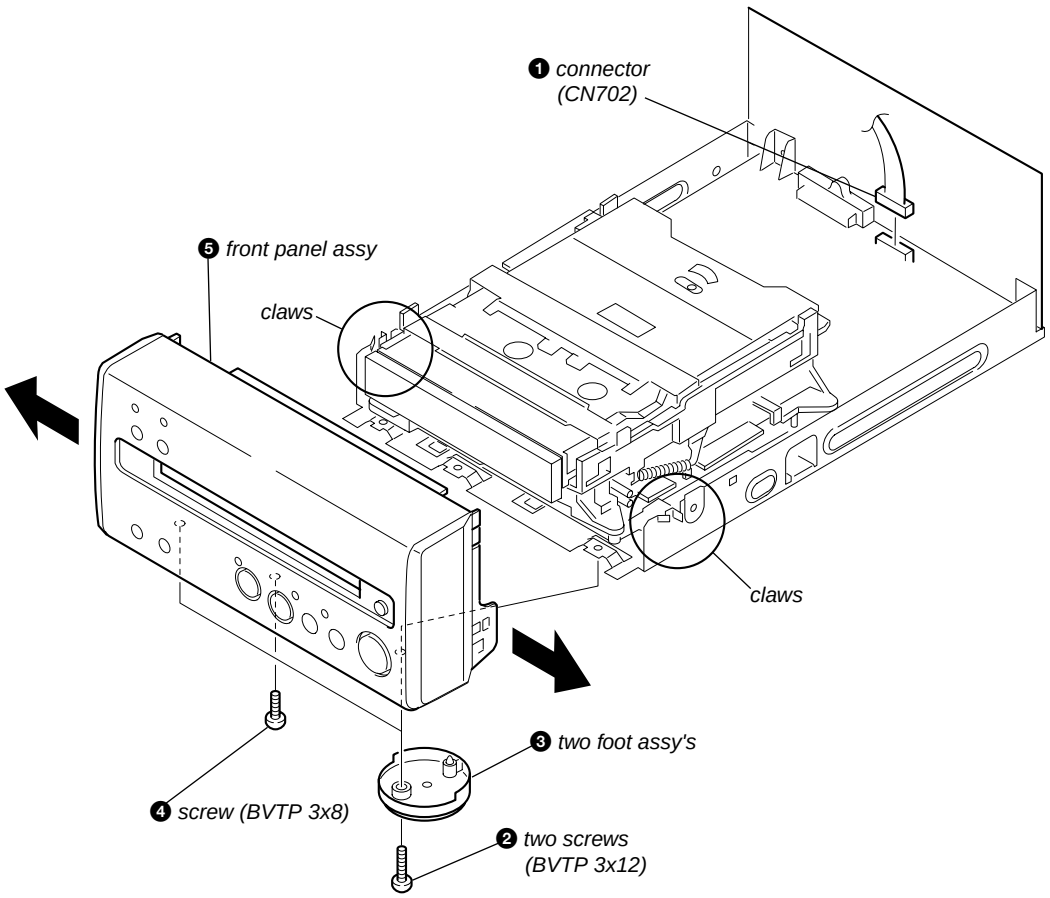
Set → Case → Front Panel Assy → Mechanism Assy (Page 7)
Case → Main Board (Page 7)
Front Panel Assy → Pinch Roller BLK Assy, Belt (Page 8)

Note: Follow the disassembly procedure in the numerical order given.

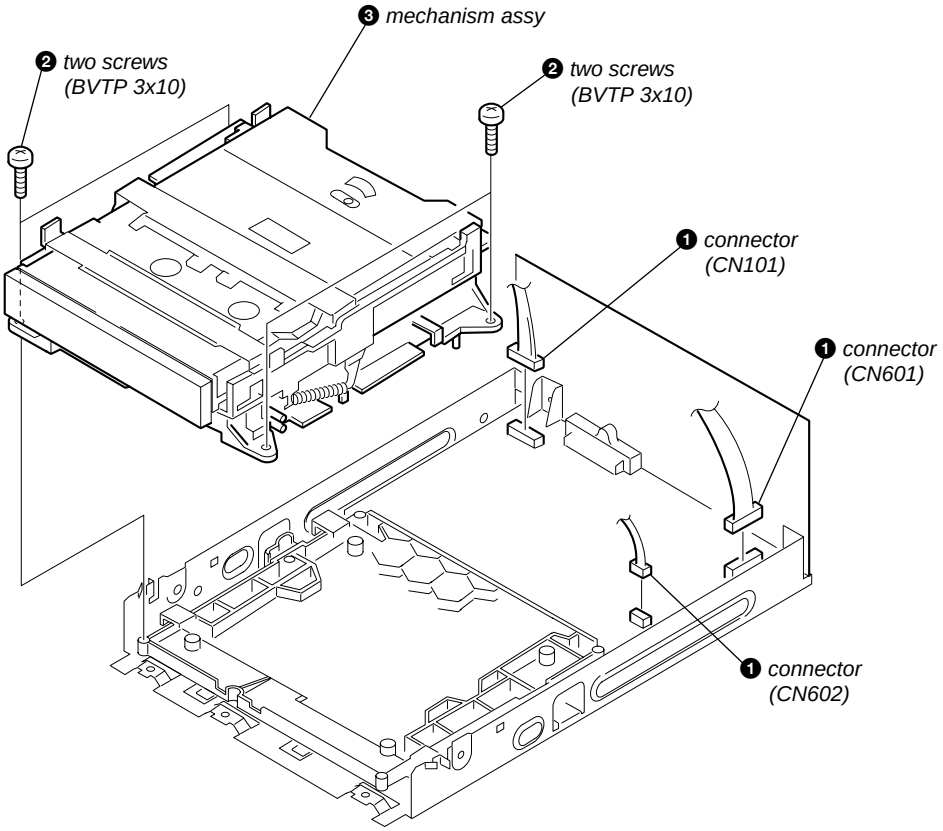
3-1. CASE



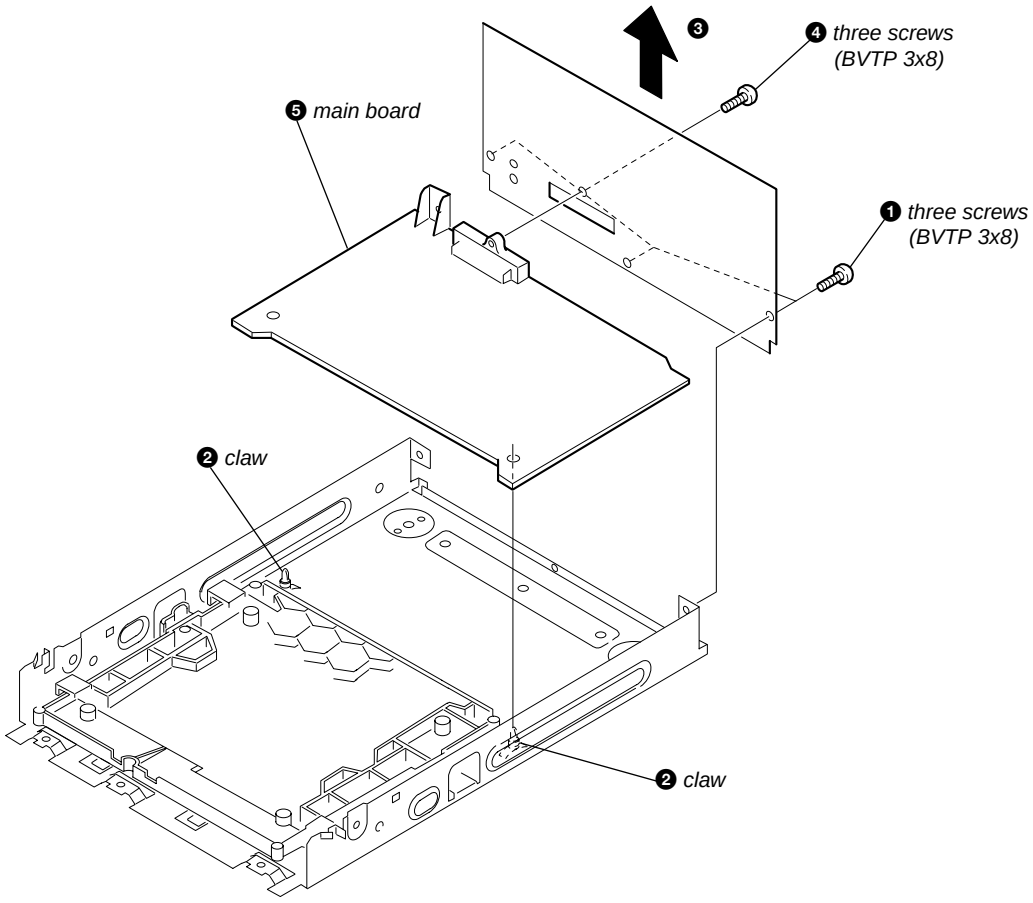
3-2. FRONT PANEL ASSY



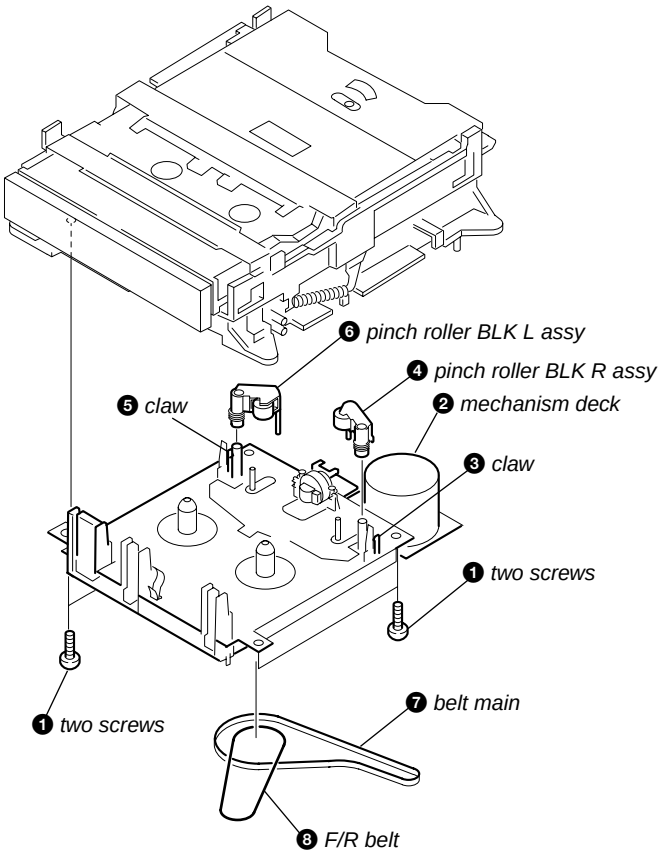
3-3. MECHANISM ASSY

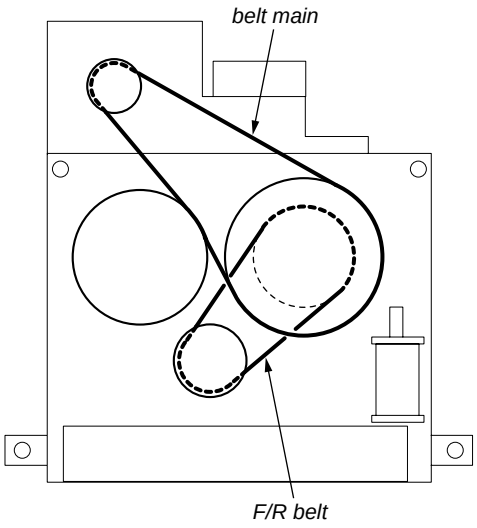


3-4. MAIN BOARD



3-5. PINCH ROLLER BLK ASSY, BELT





SECTION 4
TEST MODE

4-1. TEST MODE FOR NOT CONNECTING THE WHOLE SYSTEM (When connecting TA-SP55,ST-SP55,TC-SP55)

4-1-1. SETTING THE TEST MODE

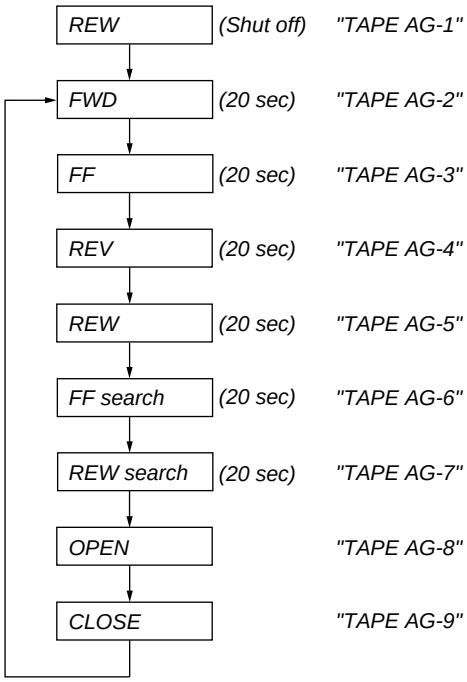
Procedure:

1. When the power ON, press the [I/⏻] button (TA) while pressing the [□] button (TC) and [CD SYNC REC] buttons (TC) together.
2. When the test mode is set, the PAUSE LED will light up for 0.1 seconds at intervals of 3.2 seconds.
3. To exit the test mode, either press the [I/⏻] button (TA) and turn OFF the power.

4-1-2. TC AGING MODE

Procedure:

1. After setting the test mode, press the [▷] button (TC).
2. Operations are performed in the following sequence during aging.



4-1-3. TC AMS CHECK

Procedure:

1. After setting the test mode, pressing the [□] button (TC) and then the [CD SYNC REC] button (TC) will start REW operations.
2. After rewinding to the tape top,FF search in the FWD direction starts.
   "TAPE EDG*" will be displayed.(*: Arbitrary number)
3. After FF searching to the tape end, the tape will be automatically stopped, and "TAPE OK" or "TAPE NG" will be displayed.

4-1-4. TC REC START POINT

Procedure:

1. Set the test mode, and press the [REC] button (TC) and then the [▷] button (TC) to set the recording state.
2. Pressing the [CD SYNC REC] button (TC) returns to the starting point of recording.

4-2. TEST MODE FOR CONNECTING THE WHOLE SYSTEM

4-2-1. TC Aging Mode (Connecting The Whole System)

- Mode for repeating operations of the CD player and TC deck automatically.

When errors occur:

Aging stops and a message indicating that an error has occurred such as “CD MEC ERR” is displayed.
(For details of errors, refer to “Error History Display Mode”.)

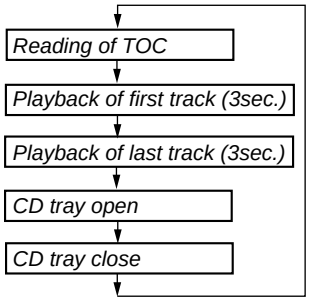
When no errors occur:

Aging is repeatedly performed.

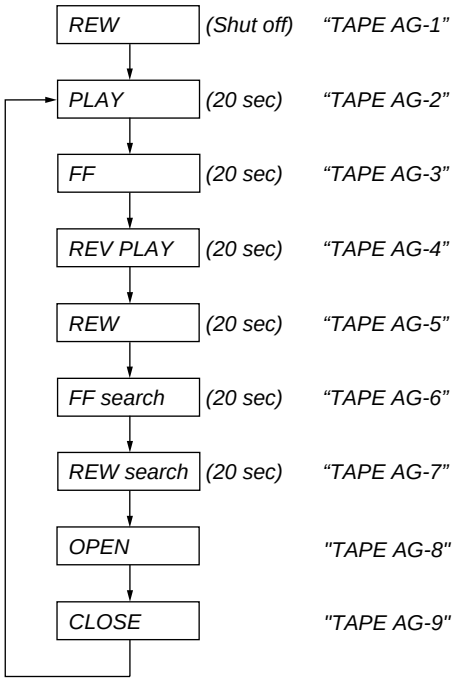
Procedure:

1. Load any CD and a tape.
2. Select the function “CD” using the [FUNCTION] knob(TA) .
3. While pressing the [TUNING MODE] button (ST) and [▷] button (CDP), press the [I/⏻] button (TA).
4. “AGING” is displayed on the fluorescent display tube briefly.
5. Operations are performed in the following sequence during aging.
   Every pressing of [DISPLAY] button (ST) changes the display in the CD display and TAPE display.

CD :



Cassette :



6. To end aging, execute the cold reset.

SECTION 5
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   - record/playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	3.04 – 6.96 N • m (31 to 71 g • cm) (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	0.20 – 0.58 N • m (2 to 6 g • cm) (0.02 – 0.08 oz • inch)
REV	CQ-102RC	3.04 – 6.96 N • m (31 to 71 g • cm) (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	0.20 – 0.58 N • m (2 to 6 g • cm) (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	6.97 – 14.02 N • m (71 to 143 g • cm) (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	0.98 N • m or more (100 g or more) (3.53 oz or more)
REV tension	CQ-403R	0.98 N • m or more (100 g or more) (3.53 oz or more)

SECTION 6
ELECTRICAL ADJUSTMENTS

0 DB=0.775V

Note: Before starting the adjustment, measure performance of the machine. Perform adjustment only when the measured performances do not satisfy the specifications.

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

completed before performing recording circuit adjustment.)

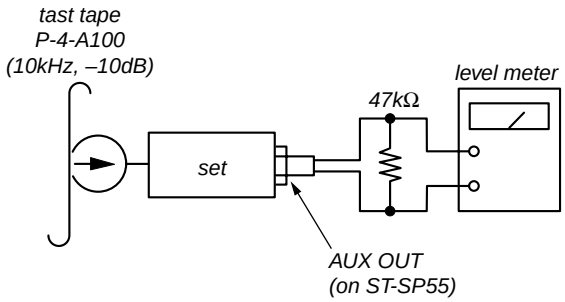
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

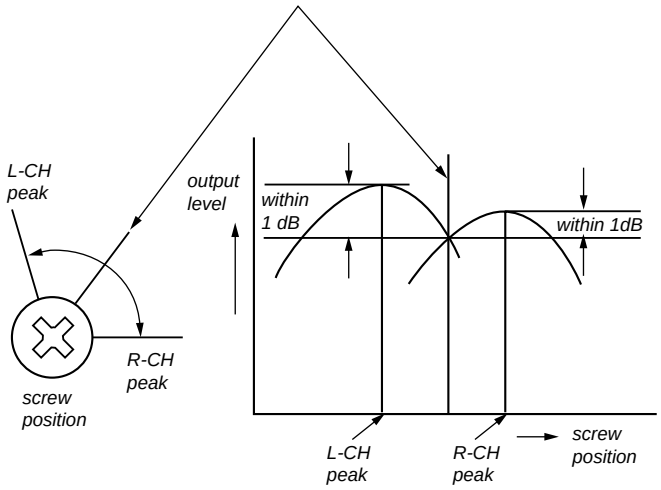
Record/Playback Head Azimuth Adjustment

Procedure:

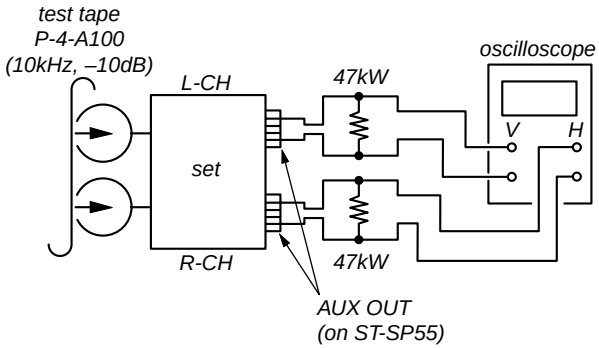
1. Mode : FWD playback



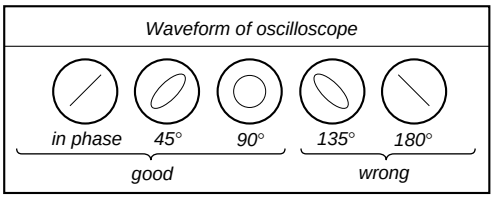
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



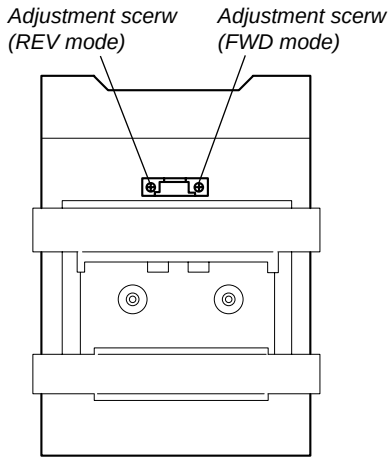
3. Phase check
   Model: FWD playback



4. Perform steps 1 to 3 in the FWD playback mode.
5. Confirm that phase error between L-ch and R-ch is in the range of same phase to 90 degrees.
6. After the adjustments, apply suitable locking compound to the parts adjusted.

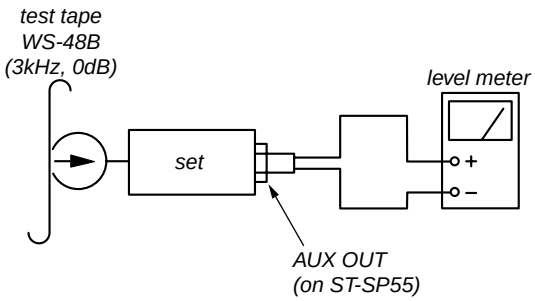


Adjustment Location:



Tape Speed Adjustment

Procedure:



1. Insert the WS-48B into deck.
2. Press the ▷ button of deck.
3. Adjust RV362 of the MAIN board so that the reading of the frequency counter becomes 3000 ± 90 Hz.

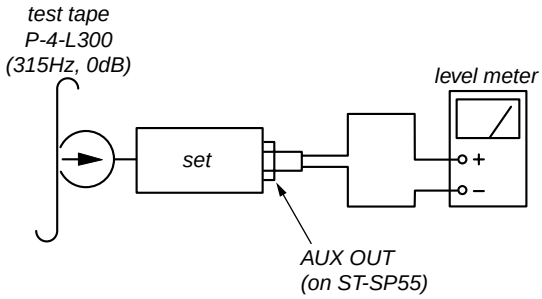
Adjustment Location: MAIN board

Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

Playback Level Adjustment

Procedure:
Mode: FWD playback

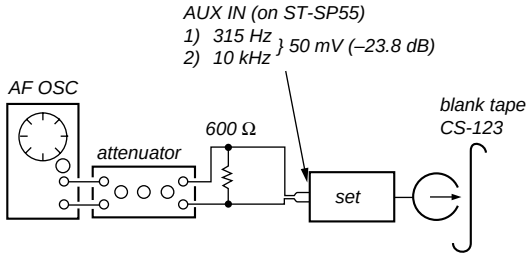


Adjust RV211 (L-CH) and RV261 (R-CH), so that adjustment within the following adjustment level.

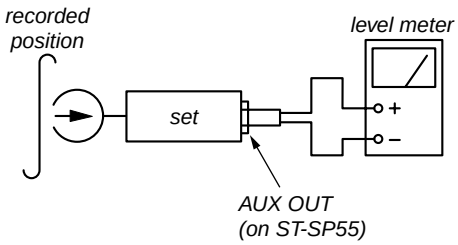
Adjustment level:
AUX OUT level: –8.2 ± 0.5 dB (285 to 319 mV)
Level difference between the channels: within ± 1.0 dB
Confirm that the AUX OUT level does not change even though play and stop are repeated.

Record Bias Adjustment

Procedure:
1. Record mode.



2. Playback mode.

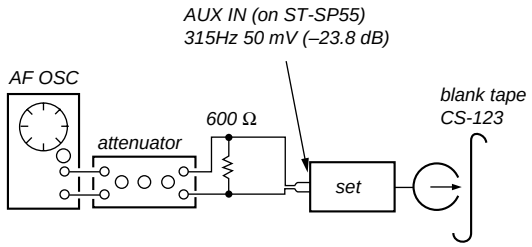


3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
   Note: You had better to refer "4-1-4. TC REC START POINT" See page 9) when this adjustment
4. If these levels do not adjustment level, adjust the RV311 (L-CH) and RV361 (R-CH), to repeat steps 1 to 3.
   Adjustment level:
   The playback outpout of 10 kHz level difference adjust 315 Hz reference should be 0 dB ± 0.5 dB.

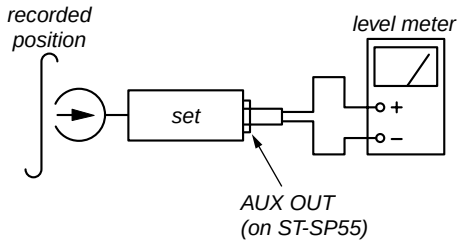
Record Level Adjustment

Procedure:

1. Record mode.

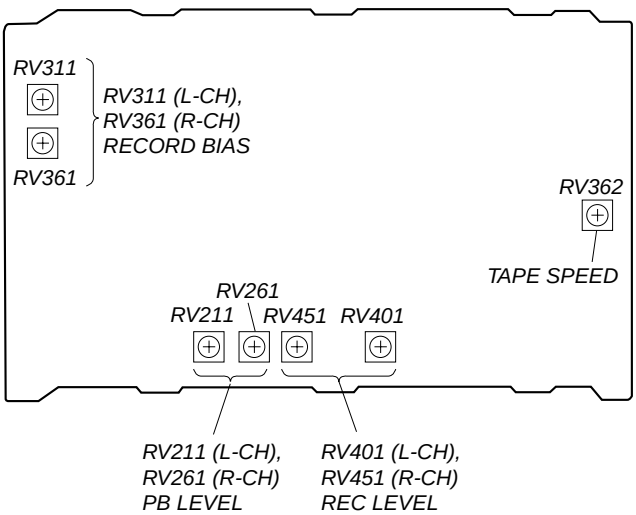


2. Playback mode.



3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
4. If these levels do not adjustment level, adjust the RV401 (L-CH) and RV451 (R-CH), on the MAIN board to repeat steps 1 to 3.
   Adjustment level:
   LINE OUT level: –21.8 dB ± 0.5 dB (59.5 to 66.7 mV)

   Adjustment Location: MAIN board



SECTION 7
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B + : B+ Line.
- B − : B– Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : PB
  : REC
- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model

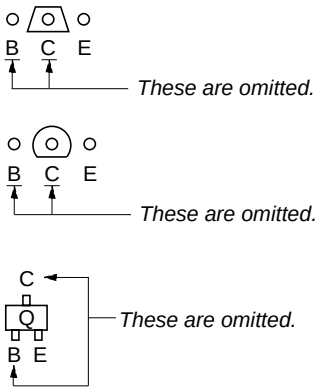
For printed wiring boards.

Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ▒▒ : Pattern from the side which enables seeing.

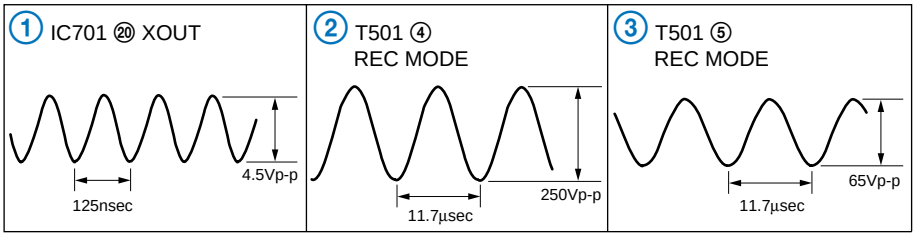
(The other layers' patterns are not indicated.)

- **Indication of transistor**

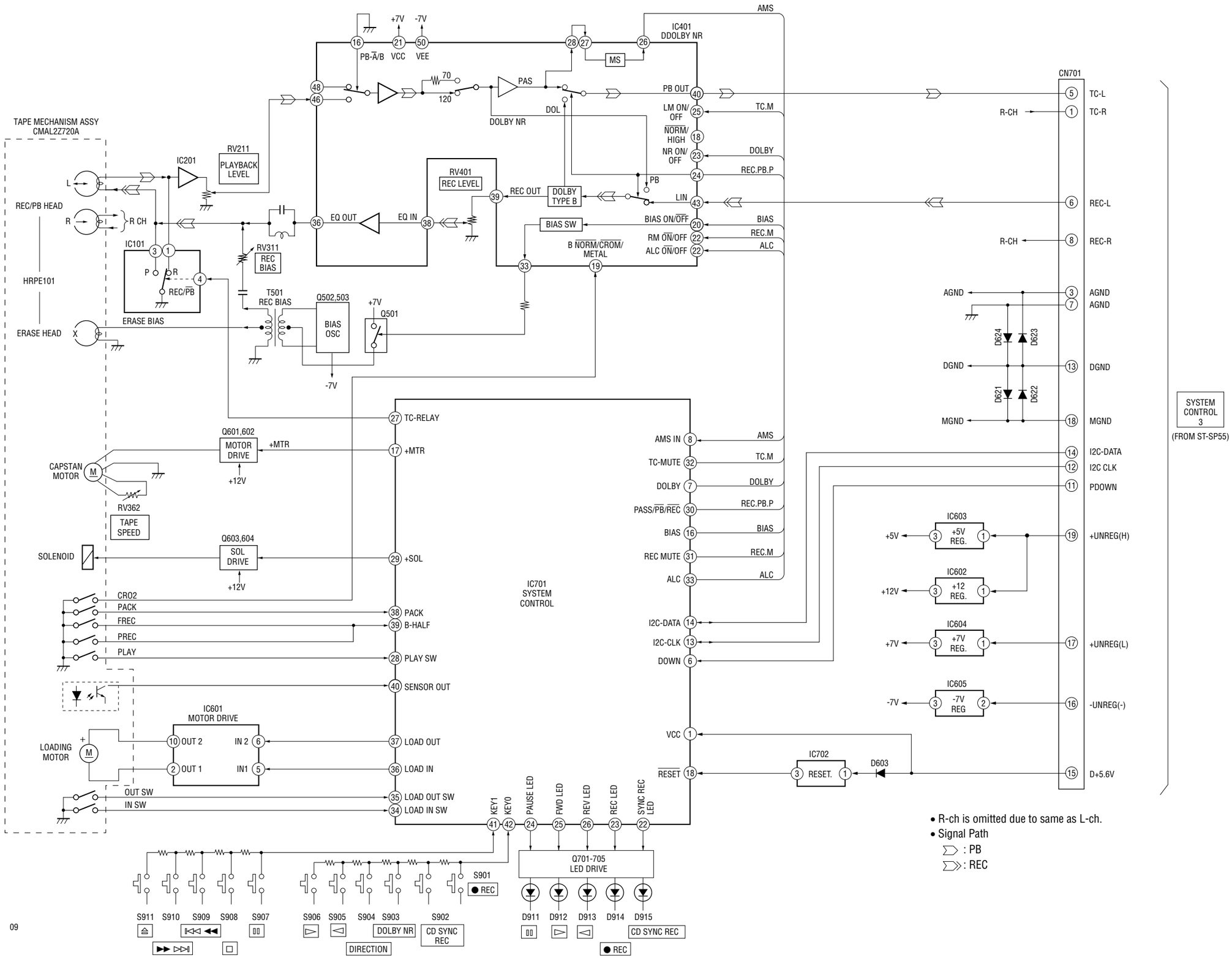


• WAVEFORMS

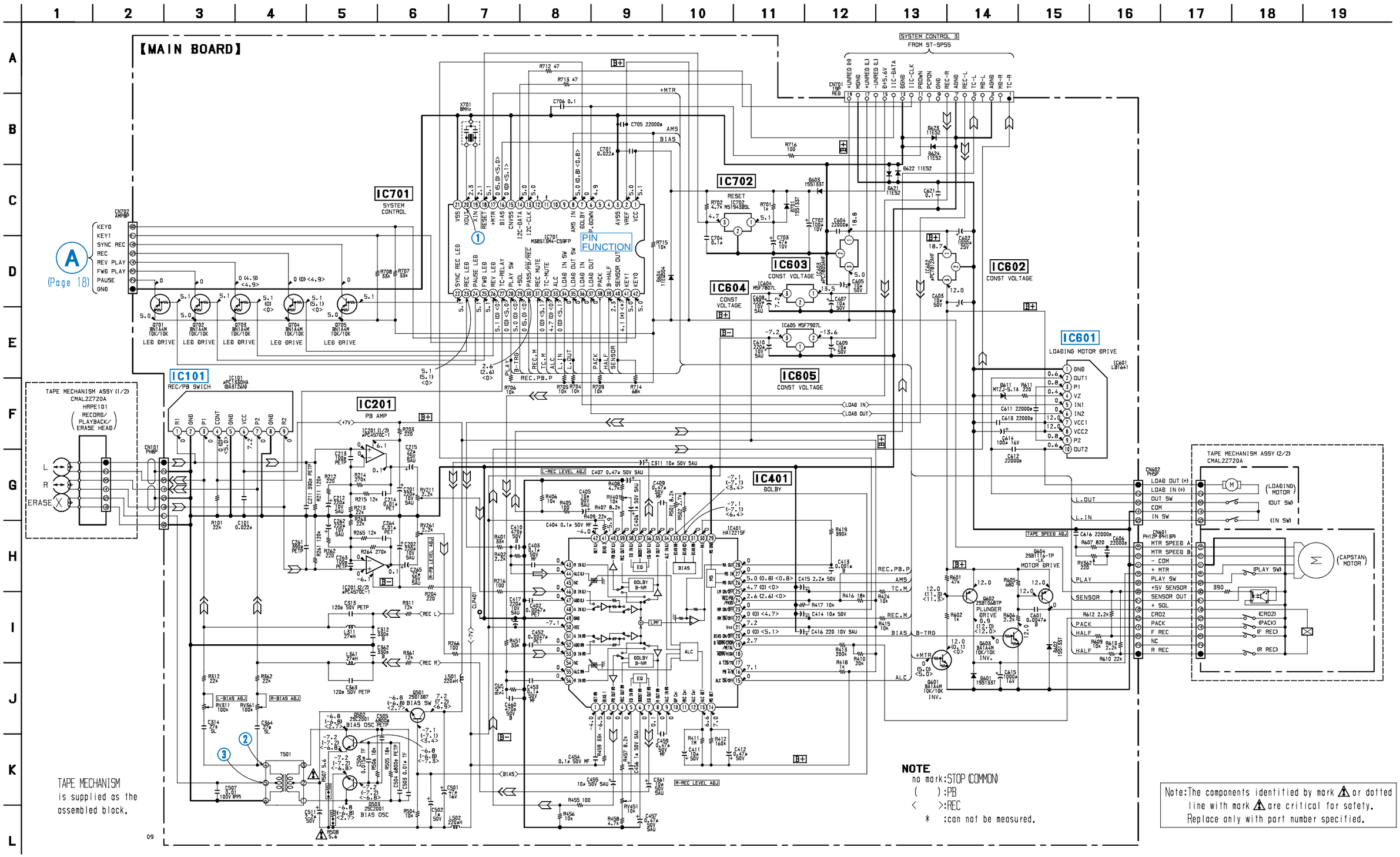
– MAIN BOARD –



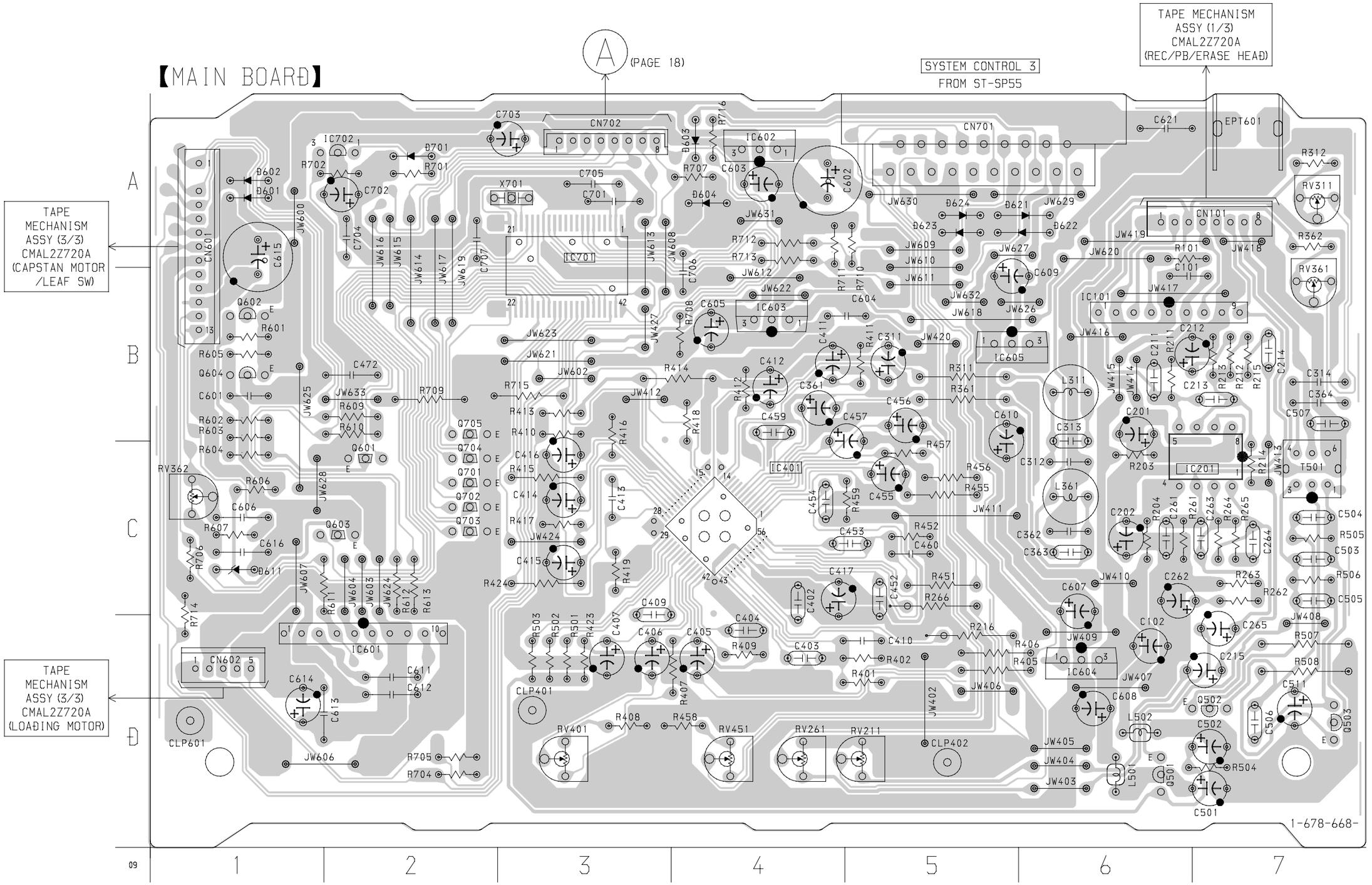
7-1. BLOCK DIAGRAM



7-2. SCHEMATIC DIAGRAM – MAIN SECTION – • See page 14 for Waveforms. • See page 19 for IC Pin Functions. • See page 20 for IC Block Diagrams.



7-3. PRINTED WIRING BOARD – MAIN SECTION –

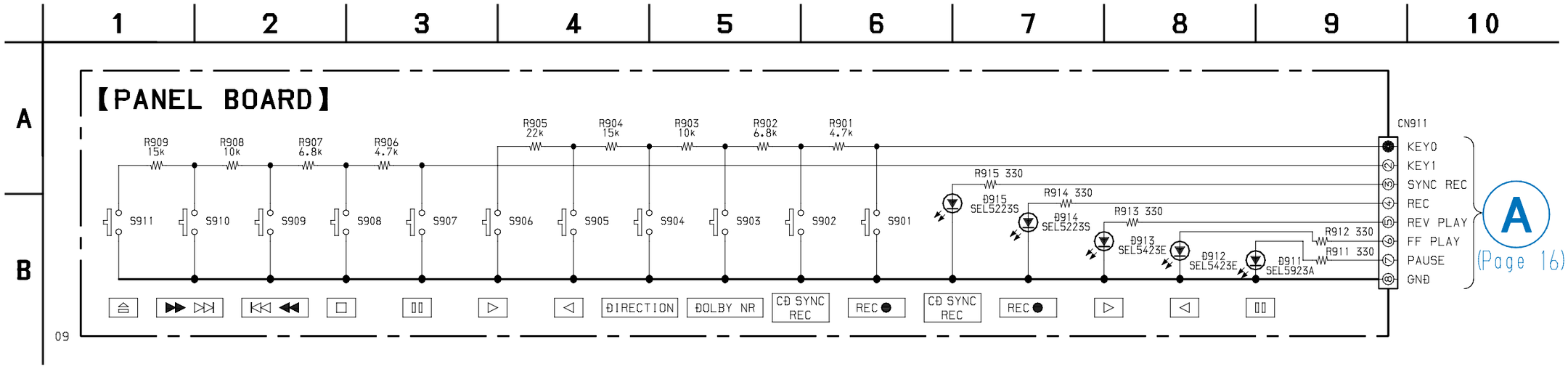


- **Semiconductor Location**

Ref. No.	Location
D601	A-1
D602	A-1
D603	A-4
D604	A-4
D611	C-1
D621	A-5
D622	A-5
D623	A-5
D624	A-5
D701	A-2
IC101	B-6
IC201	C-7
IC401	C-4
IC601	D-2
IC602	A-4
IC603	B-4
IC604	D-6
IC605	B-5
IC701	B-3
IC702	A-2
Q501	D-6
Q502	D-7
Q503	D-7
Q601	C-2
Q602	B-1
Q603	C-2
Q604	B-1
Q701	C-2
Q702	C-2
Q703	C-2
Q704	C-2
Q705	B-2

There are a few cases that the part isn't mounted in model is printed on diagram.

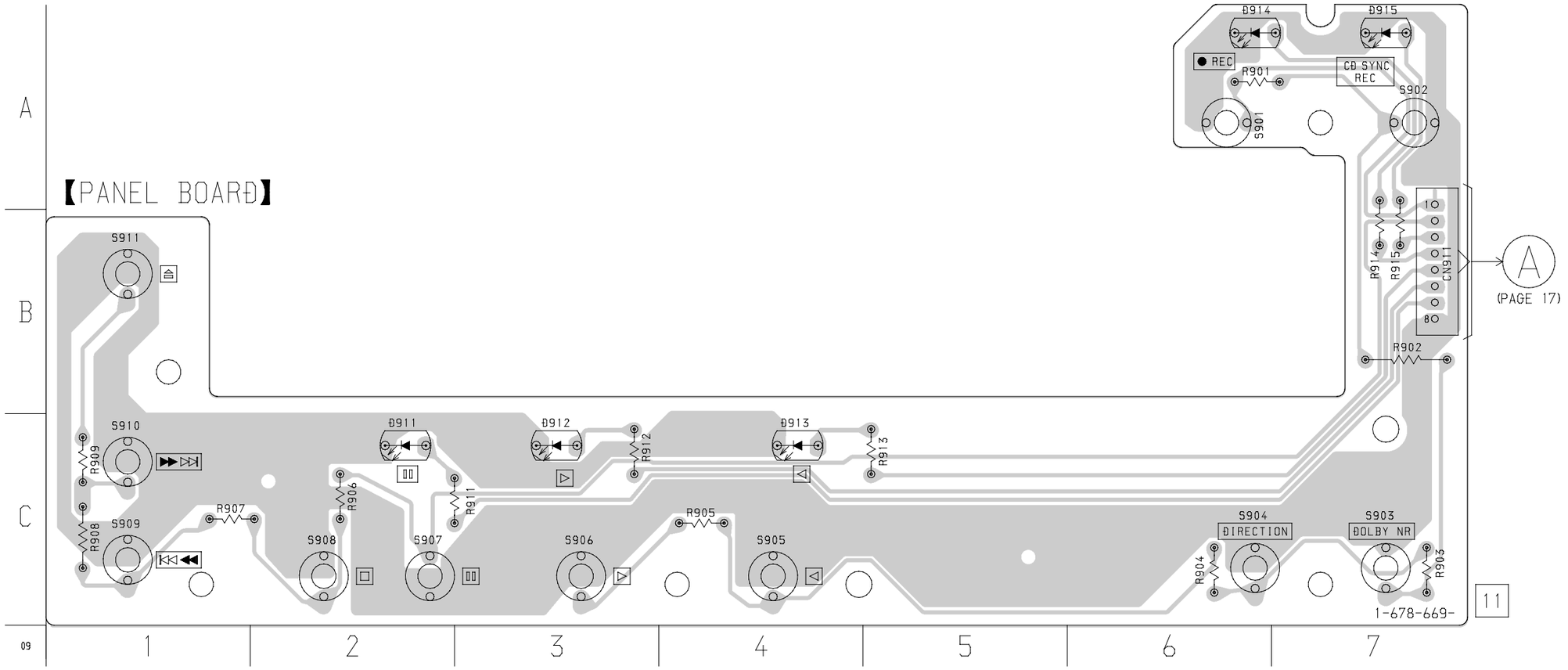
7-4. SCHEMATIC DIAGRAM – PANEL SECTION –



7-5. PRINTED WIRING BOARD – PANEL SECTION –

- **Semiconductor Location**

Ref. No.	Location
Đ911	C-2
Đ912	C-3
Đ913	C-4
Đ914	A-6
Đ915	A-7



There are a few cases that the part isn't mounted in model is printed on diagram.

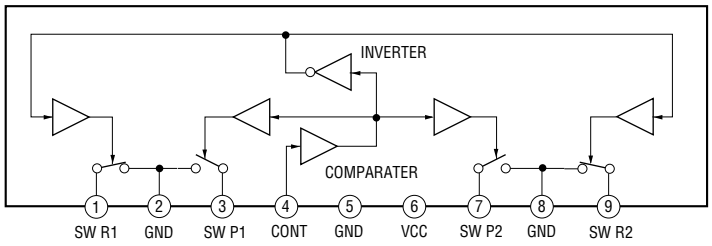
7-6. IC PIN FUNCTIONS

• IC701 M38513M4-C59FP SYSTEM CONTROL (MAIN BOARD)

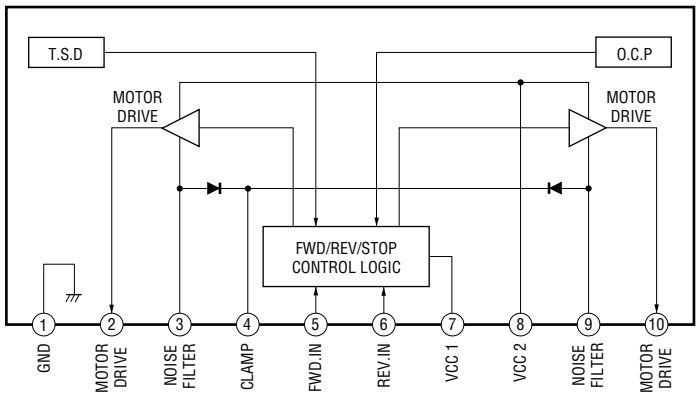
Pin No.	Pin Name	I/O	Function
1	VCC	—	Power supply.(+5V)
2	VREF	—	Analog Reference Voltage.
3	AVSS	—	Ground.
4	NC	—	Not used.
5	NC	—	Not used.
6	P.DOWN	I	POWER DOWN signal control signal input. H: Normal L: STANDBY mode
7	DOLBY	O	DOLBY B NR control signal output. H: ON L: OFF
8	AMS IN	I	AMS search signal input.
9	NC	—	Not used.
10	NC	—	Not used.
11	NC	—	Not used.
12	NC	—	Not used.
13	I2C-CLK	I/O	IIC bus clock input/output.
14	I2C-DATA	I/O	IIC bus data input/output.
15	CNVSS	—	Connected to ground.
16	BIAS	O	REC bias control signal output. H: ON L: OFF
17	+MTR	O	Capstan Motor control. H: ON L: OFF
18	$\overline{\text{RESET}}$	I	Reset signal input. L: RESET
19	XIN	I	Ceramic oscillator input.(8MHz)
20	XOUT	O	Ceramic oscillator output.(8MHz)
21	VSS	—	Ground.
22	SYNC REC LED	O	CD SYNC LED control signal output. H: OFF L: ON
23	REC LED	O	REC LED control signal output. H: OFF L: ON
24	PAUSE LED	O	PAUSE LED control signal output. H: OFF L: ON
25	FWD LED	O	FWD LED control signal output. H: OFF L: ON
26	REV LED	O	REV LED control signal output. H: OFF L: ON
27	TC-RELAY	O	Head REC/PB select signal output. H: REC L: PB
28	PLAY SW	I	MC PLAY switch signal input.
29	+SOL	O	MC mode exchange solenoid control signal output.
30	$\overline{\text{REC}}$/$\overline{\text{PB}}$/PASS	I/O	REC/PB/PASS select . H: REC PASS L: REC mode 1/2Vcc: PB MODE
31	REC MUTE	O	REC MUTE control. H: ON L: OFF
32	TC-MUTE	O	TC LINE MUTE control signal output. H: ON L: OFF
33	ALC	O	Automatic level control signal output. H: OFF L: ON
34	LOAD IN SW	I	Detection input from the tray open/close switch. H: LOAD IN
35	LOAD OUT SW	I	Detection input from the tray open/close switch. L: LOAD OUT
36	LOAD IN	O	Tray loading motor LOAD IN signal output. H: ON L: OFF
37	LOAD OUT	O	Tray loading motor LOAD OUT signal output. H: ON L:OFF
38	PACK	I	Detection input from the cassette half switch. H: HALF OFF L: HALF ON (H:without a half L: within a half)
39	B-HALF	I	REC proof detect signal input.
40	SENSOR OUT	I	Reel senser signal input.
41	KEY1	I	Key input.
42	KEY0	I	Key input.

7-7. IC BLOCK DIAGRAMS

IC101 µPC1330HA (MAIN BOARD)



IC601 LB1641 (MAIN BOARD)

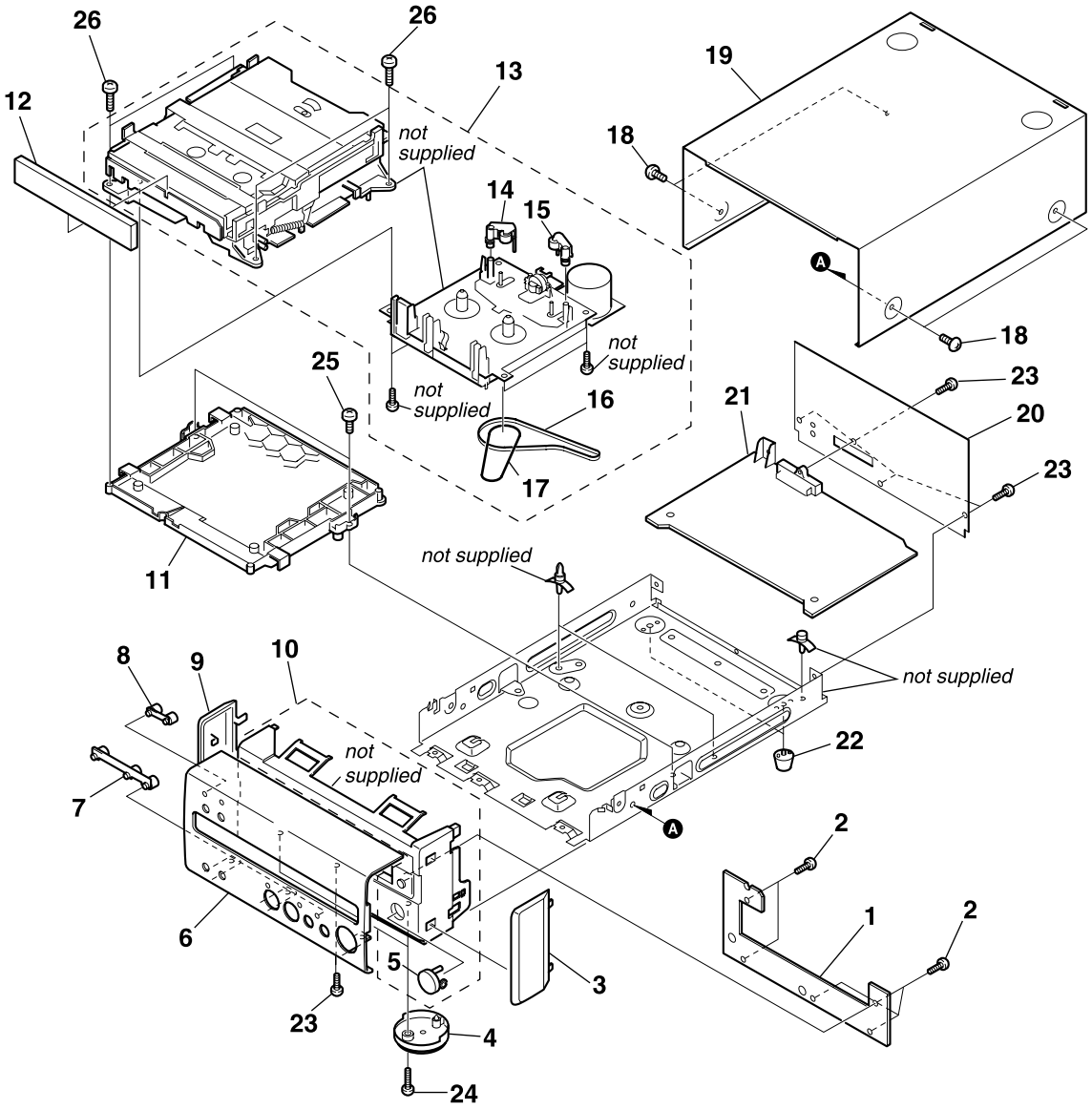


SECTION 8
EXPLODED VIEW

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of the electrical parts list.
- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model
  KR : Korean model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

8-1. CASE AND FRONT PANEL



Ref. No.	Part No.	Description	Remark
1	1-678-669-11	PANEL BOARD	
2	4-951-620-01	SCREW(2.6X8), +BVTP	
3	4-229-703-01	PLATE(R), SIDE	
4	X-4953-027-1	FOOT ASSY	
5	4-229-678-01	BUTTON (U/D)	
6	4-229-648-01	PANEL (TC), FRONT	
7	4-229-652-01	INDICATOR (PLAY)	
8	4-229-651-01	INDICATOR (REC)	
9	4-229-704-01	PLATE (L), SIDE	
10	X-4953-025-1	PANEL ASSY (TC), SUB	
11	4-229-653-01	HOLDER (TC)	
12	4-229-649-01	PANEL, LOADING	
13	A-2004-777-A	MECHANISM (CMAL2Z720A) ASSY	
14	X-4949-569-1	PINCH ROLLER BLK L ASSY	
15	X-4949-568-1	PINCH ROLLER BLK R ASSY	

Ref. No.	Part No.	Description	Remark
16	3-356-744-01	BELT MAIN	
17	4-928-951-21	F/R BELT	
18	3-363-099-51	SCREW (CASE 3 TP2)	
19	4-229-701-31	CASE	
20	4-229-654-01	PANEL, BACK (AEP,UK,AED)	
20	4-229-654-21	PANEL, BACK (MY,SP)	
20	4-229-654-31	PANEL, BACK (KR)	
21	A-2007-857-A	MAIN BOARD, COMPLETE	
22	4-965-822-01	FOOT	
23	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
24	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
25	7-685-871-01	SCREW +BVTT 3X6 (S)	
26	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	

MAIN

SECTION 9
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model

Ref. No.	Part No.	Description			Remark
	A-2007-857-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-161-494-00	CERAMIC	0.022uF		25V
C201	1-128-832-11	ELECT	220uF	20%	10V
C202	1-128-832-11	ELECT	220uF	20%	10V
C211	1-110-342-11	MYLAR	390PF	5%	50V
C212	1-128-832-11	ELECT	220uF	20%	10V
C213	1-110-335-11	MYLAR	100PF	5%	50V
C214	1-130-483-00	MYLAR	0.01uF	5%	50V
C215	1-128-858-91	ELECT	22uF	20%	25V
C261	1-110-342-11	MYLAR	390PF	5%	50V
C262	1-128-832-11	ELECT	220uF	20%	10V
C263	1-110-335-11	MYLAR	100PF	5%	50V
C264	1-130-483-00	MYLAR	0.01uF	5%	50V
C265	1-128-858-91	ELECT	22uF	20%	25V
C311	1-119-824-11	ELECT MELF	10uF	20%	50V
C312	1-162-288-31	CERAMIC	330PF	10%	50V
C313	1-137-427-11	MYLAR	120PF	5%	50V
C314	1-162-209-31	CERAMIC	27PF	5%	50V
C361	1-119-824-11	ELECT MELF	10uF	20%	50V
C362	1-162-288-31	CERAMIC	330PF	10%	50V
C363	1-137-427-11	MYLAR	120PF	5%	50V
C364	1-162-209-31	CERAMIC	27PF	5%	50V
C402	1-130-479-00	MYLAR	0.0047uF	5%	50V
C403	1-136-165-00	FILM	0.1uF	5%	50V
C404	1-136-165-00	FILM	0.1uF	5%	50V
C405	1-119-824-11	ELECT MELF	10uF	20%	50V
C406	1-119-820-11	ELECT	1uF	20%	50V
C407	1-128-854-11	ELECT	0.47uF	20%	50V
C409	1-137-194-81	FILM	0.47uF	5%	50V
C410	1-162-290-31	CERAMIC	470PF	10%	50V
C411	1-126-964-11	ELECT	10uF	20%	50V
C412	1-126-959-11	ELECT	0.47uF	20%	50V
C413	1-162-294-31	CERAMIC	0.001uF	10%	50V
C414	1-126-964-11	ELECT	10uF	20%	50V
C415	1-126-961-11	ELECT	2.2uF	20%	50V
C416	1-128-832-11	ELECT	220uF	20%	10V
C417	1-128-832-11	ELECT	220uF	20%	10V
C452	1-130-479-00	MYLAR	0.0047uF	5%	50V
C453	1-136-165-00	FILM	0.1uF	5%	50V
C454	1-136-165-00	FILM	0.1uF	5%	50V
C455	1-119-824-11	ELECT MELF	10uF	20%	50V
C456	1-119-820-11	ELECT	1uF	20%	50V
C457	1-128-854-11	ELECT	0.47uF	20%	50V
C459	1-137-194-81	FILM	0.47uF	5%	50V
C460	1-162-290-31	CERAMIC	470PF	10%	50V
C501	1-104-664-11	ELECT	47uF	20%	16V
C502	1-126-960-11	ELECT	1uF	20%	50V
C503	1-136-153-00	FILM	0.01uF	5%	50V
C504	1-130-481-00	MYLAR	0.0068uF	5%	50V
C505	1-130-481-00	MYLAR	0.0068uF	5%	50V
C506	1-136-155-00	FILM	0.015uF	5%	50V
C507	1-137-150-11	FILM	0.01uF	5%	100V
C511	1-126-961-11	ELECT	2.2uF	20%	50V
C601	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C602	1-126-942-61	ELECT	1000uF	20%	25V
C603	1-126-964-11	ELECT	10uF	20%	50V
C604	1-161-494-00	CERAMIC	0.022uF		25V
C605	1-126-964-11	ELECT	10uF	20%	50V
C606	1-161-494-00	CERAMIC	0.022uF		25V
C607	1-126-964-11	ELECT	10uF	20%	50V
C608	1-128-832-11	ELECT	220uF	20%	10V
C609	1-126-964-11	ELECT	10uF	20%	50V
C610	1-128-832-11	ELECT	220uF	20%	10V
C611	1-161-494-00	CERAMIC	0.022uF		25V
C612	1-161-494-00	CERAMIC	0.022uF		25V
C613	1-161-494-00	CERAMIC	0.022uF		25V
C614	1-126-933-11	ELECT	100uF	20%	16V
C615	1-126-767-11	ELECT	1000uF	20%	16V
C621	1-164-159-11	CERAMIC	0.1uF		50V
C701	1-161-494-00	CERAMIC	0.022uF		25V
C702	1-104-665-11	ELECT	100uF	20%	10V
C703	1-104-664-11	ELECT	47uF	20%	10V
C704	1-164-159-11	CERAMIC	0.1uF		50V
C705	1-161-494-00	CERAMIC	0.022uF		25V
C706	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN101	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CN601	1-784-927-11	PIN, CONNECTOR 12P			
CN602	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CN701	1-793-351-21	SOCKET, CONNECTOR 19P			
* CN702	1-568-935-11	PIN, CONNECTOR 8P			
		< DIODE >			
D601	8-719-911-19	DIODE 1SS133T-72			
D602	8-719-911-19	DIODE 1SS133T-72			

Ref. No.	Part No.	Description			Remark
D603	8-719-911-19	DIODE 1SS133T-72			
D604	8-719-210-21	DIODE 11EQS04-NTA2B			
D611	8-719-947-16	DIODE MTZJ-T-72-5.1A			
D621	8-719-024-99	DIODE 11ES2-NTA2B			
D622	8-719-024-99	DIODE 11ES2-NTA2B			
D623	8-719-024-99	DIODE 11ES2-NTA2B			
D624	8-719-024-99	DIODE 11ES2-NTA2B			
D701	8-719-911-19	DIODE 1SS133T-72			
		< IC >			
IC101	8-759-143-54	IC uPC1330HA			
IC201	8-759-111-44	IC uPC4570C-1			
IC401	8-759-495-26	IC HA12215F			
IC601	8-759-822-09	IC LB1641			
IC602	8-759-088-08	IC uPC7812AHF			
IC603	8-759-039-69	IC uPC7805AHF			
IC604	8-759-604-86	IC M5F7807L			
IC605	8-759-604-90	IC M5F7907L			
IC701	8-759-684-70	IC M38513M4-C59FP			
IC702	8-759-635-63	IC M51943BSL-TP			
		< COIL >			
L311	1-410-092-31	INDUCTOR	27MH		
L361	1-410-092-31	INDUCTOR	27MH		
L501	1-414-193-41	INDUCTOR	220uH		
L502	1-414-193-41	INDUCTOR	220uH		
		< TRANSISTOR >			
Q501	8-729-801-93	TRANSISTOR 2SD1387-34-TP			
Q502	8-729-142-46	TRANSISTOR 2SC2001TP-LK			
Q503	8-729-142-46	TRANSISTOR 2SC2001TP-LK			
Q601	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q602	8-729-116-59	TRANSISTOR 2SB1068TP			
Q603	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q604	8-729-140-04	TRANSISTOR 2SB1116-TP-LK			
Q701	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q702	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q703	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q704	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q705	8-729-422-57	TRANSISTOR BN1A4M-TP			
		< RESISTOR >			
R101	1-249-433-11	CARBON	22K	5%	1/4W
R203	1-249-409-11	CARBON	220	5%	1/4W F
R204	1-249-409-11	CARBON	220	5%	1/4W F
R211	1-247-881-00	CARBON	120K	5%	1/4W
R212	1-249-409-11	CARBON	220	5%	1/4W F
R213	1-249-433-11	CARBON	22K	5%	1/4W
R214	1-247-889-00	CARBON	270K	5%	1/4W
R215	1-249-430-11	CARBON	12K	5%	1/4W
R216	1-247-807-31	CARBON	100	5%	1/4W
R261	1-247-881-00	CARBON	120K	5%	1/4W
R262	1-249-409-11	CARBON	220	5%	1/4W F
R263	1-249-433-11	CARBON	22K	5%	1/4W
R264	1-247-889-00	CARBON	270K	5%	1/4W
R265	1-249-430-11	CARBON	12K	5%	1/4W
R266	1-247-807-31	CARBON	100	5%	1/4W
R311	1-249-430-11	CARBON	12K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R312	1-249-433-11	CARBON	22K	5%	1/4W
R361	1-249-430-11	CARBON	12K	5%	1/4W
R362	1-249-433-11	CARBON	22K	5%	1/4W
R401	1-249-435-11	CARBON	33K	5%	1/4W
R402	1-249-421-11	CARBON	2.2K	5%	1/4W F
R405	1-247-807-31	CARBON	100	5%	1/4W
R406	1-249-429-11	CARBON	10K	5%	1/4W
R407	1-249-428-11	CARBON	8.2K	5%	1/4W F
R408	1-249-425-11	CARBON	4.7K	5%	1/4W F
R409	1-249-433-11	CARBON	22K	5%	1/4W
R410	1-247-862-11	CARBON	20K	5%	1/4W
R411	1-247-903-00	CARBON	1M	5%	1/4W
R412	1-247-884-11	CARBON	160K	5%	1/4W
R413	1-247-886-11	CARBON	200K	5%	1/4W
R415	1-249-429-11	CARBON	10K	5%	1/4W
R416	1-249-432-11	CARBON	18K	5%	1/4W
R417	1-249-429-11	CARBON	10K	5%	1/4W
R418	1-249-417-11	CARBON	1K	5%	1/4W F
R419	1-247-893-11	CARBON	390K	5%	1/4W
R424	1-249-429-11	CARBON	10K	5%	1/4W
R451	1-249-435-11	CARBON	33K	5%	1/4W
R452	1-249-421-11	CARBON	2.2K	5%	1/4W F
R455	1-247-807-31	CARBON	100	5%	1/4W
R456	1-249-429-11	CARBON	10K	5%	1/4W
R457	1-249-428-11	CARBON	8.2K	5%	1/4W F
R458	1-249-425-11	CARBON	4.7K	5%	1/4W F
R459	1-249-435-11	CARBON	33K	5%	1/4W
R501	1-249-428-11	CARBON	8.2K	5%	1/4W F
R502	1-249-422-11	CARBON	2.7K	5%	1/4W F
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-432-11	CARBON	18K	5%	1/4W
R506	1-249-432-11	CARBON	18K	5%	1/4W
⚠R507	1-212-851-00	FUSIBLE	5.6	5%	1/4W
⚠R508	1-212-851-00	FUSIBLE	5.6	5%	1/4W
R601	1-249-437-11	CARBON	47K	5%	1/4W
R602	1-249-417-11	CARBON	1K	5%	1/4W F
R605	1-249-415-11	CARBON	680	5%	1/4W F
R606	1-249-421-11	CARBON	2.2K	5%	1/4W F
R607	1-249-416-11	CARBON	820	5%	1/4W F
R609	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-249-433-11	CARBON	22K	5%	1/4W
R611	1-249-409-11	CARBON	220	5%	1/4W F
R612	1-249-421-11	CARBON	2.2K	5%	1/4W F
R613	1-249-421-11	CARBON	2.2K	5%	1/4W F
R701	1-249-417-11	CARBON	1K	5%	1/4W F
R702	1-249-425-11	CARBON	4.7K	5%	1/4W F
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-429-11	CARBON	10K	5%	1/4W
R707	1-249-435-11	CARBON	33K	5%	1/4W
R708	1-249-435-11	CARBON	33K	5%	1/4W
R709	1-249-429-11	CARBON	10K	5%	1/4W
R712	1-249-401-11	CARBON	47	5%	1/4W F
R713	1-249-401-11	CARBON	47	5%	1/4W F
R714	1-249-439-11	CARBON	68K	5%	1/4W
R715	1-249-429-11	CARBON	10K	5%	1/4W
R716	1-247-807-31	CARBON	100	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

MAIN PANEL

Ref. No.	Part No.	Description				Remark
		< VARIABLE RESISTOR >				
RV211	1-241-762-11	RES, ADJ, CARBON 2.2K				
RV261	1-241-762-11	RES, ADJ, CARBON 2.2K				
RV311	1-241-767-21	RES, ADJ, CARBON 100K				
RV361	1-241-767-21	RES, ADJ, CARBON 100K				
RV362	1-241-759-11	RES, ADJ, CARBON 220				
RV401	1-241-764-11	RES, ADJ, CARBON 10K				
RV451	1-241-764-11	RES, ADJ, CARBON 10K				
		< TRANSFORMER >				
T501	1-423-980-11	TRANSFORMER, BIAS OSCILLATION				
		< VIBRATOR >				
X701	1-579-125-11	VIBRATOR, CERAMIC (8MHz)				
**********						
	1-678-669-11	PANEL BOARD				
		**********				
		< DIODE >				
D911	8-719-057-97	DIODE SEL5923A-TP15 (▯▯)				
D912	8-719-058-03	DIODE SEL5423E-TP15 (◁)				
D913	8-719-058-03	DIODE SEL5423E-TP15 (▷)				
D914	8-719-058-04	DIODE SEL5223S-TP15 (● REC)				
D915	8-719-058-04	DIODE SEL5223S-TP15 (CD SYNC REC)				
		< RESISTOR >				
R901	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R902	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R903	1-249-429-11	CARBON	10K	5%	1/4W	
R904	1-249-431-11	CARBON	15K	5%	1/4W	
R905	1-249-433-11	CARBON	22K	5%	1/4W	
R906	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R907	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R908	1-249-429-11	CARBON	10K	5%	1/4W	
R909	1-249-431-11	CARBON	15K	5%	1/4W	
R911	1-249-411-11	CARBON	330	5%	1/4W	
R912	1-249-411-11	CARBON	330	5%	1/4W	
R913	1-249-411-11	CARBON	330	5%	1/4W	
R914	1-249-411-11	CARBON	330	5%	1/4W	
R915	1-249-411-11	CARBON	330	5%	1/4W	
		< SWITCH >				
S901	1-771-410-21	SWITCH, TACTILE (● REC)				
S902	1-771-410-21	SWITCH, TACTILE (CD SYNC REC)				
S903	1-771-410-21	SWITCH, TACTILE (DOLBY NR)				
S904	1-771-410-21	SWITCH, TACTILE (DIRECTION)				
S905	1-771-410-21	SWITCH, TACTILE (◁)				
S906	1-771-410-21	SWITCH, TACTILE (▷)				
S907	1-771-410-21	SWITCH, TACTILE (▯▯)				
S908	1-771-410-21	SWITCH, TACTILE (□)				
S909	1-771-410-21	SWITCH, TACTILE (⏮ ◀◀)				
S910	1-771-410-21	SWITCH, TACTILE (▶▶ ▷▷⏭)				
S911	1-771-410-21	SWITCH, TACTILE (⏏)				
**********						

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-792-923-11	CORD (WITH CONNECTOR) (AEP,UK,AED)	
	4-230-237-11	MANUAL, INSTRUCTION (ENGLISH) (AEP,UK,AED)	
	4-230-237-21	MANUAL, INSTRUCTION (FRENCH,SPANISH) (AEP,UK,AED)	
	4-230-237-31	MANUAL, INSTRUCTION (GERMAN,DUTCH) (AEP,UK,AED)	
	4-230-237-41	MANUAL, INSTRUCTION (ITALIAN,PORTUGUSE,SWEDISH) (AEP,UK,AED)	

TA-SP55

SERVICE MANUAL

AEP Model
UK Model
E Model

TA-SP55 is the amplifier section
in CMT-SP55MD or CMT-SP55TC.

This stereo system is equipped with the Dolby* B-type noise reduction system.
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol □□ are trademarks of the Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

European model:

DIN power output (Rated): 25 + 25 watts (8 ohms at 1 kHz, DIN, 230 V)
Continuous RMS power output (Reference):
30 + 30 watts (8 ohms at 1 kHz, 10% THD, 230 V)
Music power output (Reference):
75 + 75 watts

Other models:

DIN power output (Rated): 25 + 25 watts (8 ohms at 1 kHz, DIN, 240 V)
22 + 22 watts (8 ohms at 1 kHz, DIN, 220 V)
Continuous RMS power output (Reference):
30 + 30 watts (8 ohms at 1 kHz, 10% THD, 240 V)
28 + 28 watts (8 ohms at 1 kHz, 10% THD, 220 V)
Output
PHONES (stereo phono jack):
accepts headphones of 8 ohms or more.

General

Power requirements	
European model:	230 V AC, 50/60 Hz
Other models:	110 – 120 V or 220 – 240 V AC, 50/60 Hz
Power consumption	70 watts
Dimensions (w/h/d)	Approx. 202 x 101 x 306 mm
Mass	Approx. 3.9 kg

Design and specifications are subject to change without notice.

MICRO Hi-Fi COMPONENT SYSTEM

SONY®

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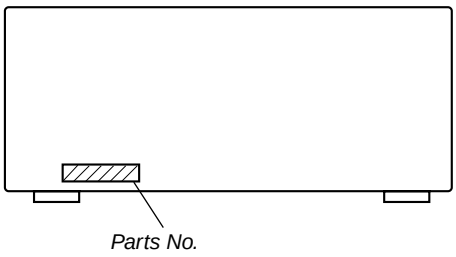
MODEL IDENTIFICATION



MODEL	PARTS No.
AEP, AED, UK model	4-229-700-0☐
MY, SP model	4-229-700-2☐
HK model	4-229-700-3☐
KR model	4-229-700-4☐

- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model
  HK : Hong Kong model
  KR : Korea model

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTE

This unit cannot be repaired by itself.
When repairing, connect the whole system except for the speaker.

CD Text Display

- This unit displays CD text.
  Text is displayed for the first 50 track only and will not be displayed from the 51st track onwards. Do not suspect a fault in this case.
  In some cases, some special characters will not be displayed and may be replaced by other characters. Do not suspect a fault in this case.

Cold Reset

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and ▶▶▷▷I buttons (CDP) together.
2. "COLD RESET" is displayed on the fluorescent indicator tube and reset is executed.

Hot Reset

- This mode reset the preset data kept in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and I◁◁◀◀ buttons (CDP) together.
2. Turn off the unit and reset is executed.

GC Test Mode

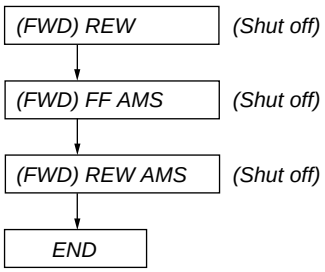
Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and PLAY MODE buttons (CDP) together.
2. Fluorescent indicator tube are all turned on.
3. Press TUNING MODE button (ST) to enter the model destination indecation mode. "SP55 CE2" appears.
4. Every pressing of TUNING MODE button (ST) changes the display in the following order.
   MC Version ⟶ CD Version ⟶ ST Version ⟶ TC Version ⟶ TA Version ⟶ TM Version ⟶ model destination display.
5. Press DISPLAY button (ST) and the date appears as " 00615a "
   Every pressing of DISPLAY button (ST) changes the display in the Version display and model destination display.
6. Press TUNER/BAND button (ST) to enter the key check mode.
7. In the key check mode, the fluorescent indicator tube displays "Key 0 Vol 0". Each time a button is pressed, "Key" value increases. However, once a button is pressed, it is no longer taken into account.
   "Vol" Value increases like "1, 2, 3 ..." if rotating VOLUME knob (TA) in the clockwise direction, or decreases like "0, 9, 8 ..." if rotating in the counterclockwise diretion.
8. To exit from this mode, press three buttons in the same procedure as step 1, or disconnect the power cord.

MC Test Mode

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing TUNING MODE button (ST) and REPEAT button (CDP) together.
2. Frame of the MD mark and the CD mark flash, and "BASS/TRE FLAT" appears for a moment.
3. When the VOLUME knob (TA) is turned clockwise, "VOLUME MAX" appears for a moment.
4. When the VOLUME knob (TA) is turned counterclockwise, "VOLUME MIN" appears for a moment.
5. Select the function "TAPE" using the FUNCTION knob (TA).
   Set the test tape AMS-110A or AMS-120.
6. Press DIRECTION button (TC) to enter either "⟲" (loop) or "⇄" (two way).
7. Press the CD SYNC REC button (TC) to start the AMS test.

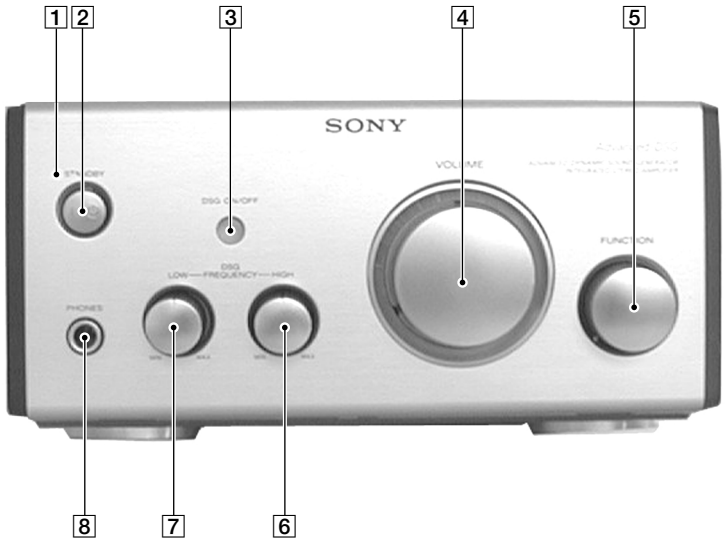


8. Number of AMS signals is counted during the AMS test and the message "EDG#" (# means a number) appears. When the test tape either AMS-110A or AMS-120 is used, the AMS signal is detected twice before shut off.
9. When the AMS test ends, either "OK" or "NG" appears.
10. To exit the MC test mode, either press the I/⏻ button (TA)or perform the cold reset as described above.

SECTION 2
GENERAL

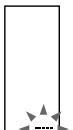
This section is extracted from instruction manual.

FRONT PANEL



1 STANDBY indicator
2 I/⏻ button
3 DSG ON/OFF button and indicator
4 VOLUME knob
5 FUNCTION knob
6 DSG FREQUENCY HIGH knob
7 DSG FREQUENCY LOW knob
8 PHONES jack

2 Press I◀◀ or ▶▶I to set the hour, then press ENTER/YES.
The minute indication flashes.



3 Press I◀◀ or ▶▶I to set the minute, then press ENTER/YES.
The clock starts.

If you made a mistake

Start over from step 1.

To change the preset time

You can change the preset time while the system is on.

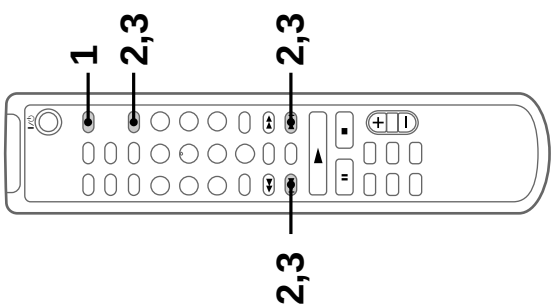
1 Press CLOCK/TIMER SET.
2 Press I◀◀ or ▶▶I repeatedly until "SET CLOCK" appears, then press ENTER/YES.
3 Repeat steps 2 and 3.

Tips

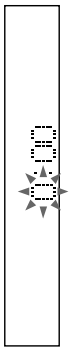
- The built-in clock shows the time in the display while the system is off. If you press DISPLAY at this time, the display back light lights up, making the clock easier to see.
- The upper dot of the colon flashes for the first 30 seconds, and the lower dot flashes for the last 30 seconds of each minute.

Step 2: Setting the time

You must set the time beforehand to use the timer functions.
The clock is on a 24-hour system for the European model, and a 12-hour system for other models. The 24-hour system is used for illustration purposes.
Set the time before turning on the system.



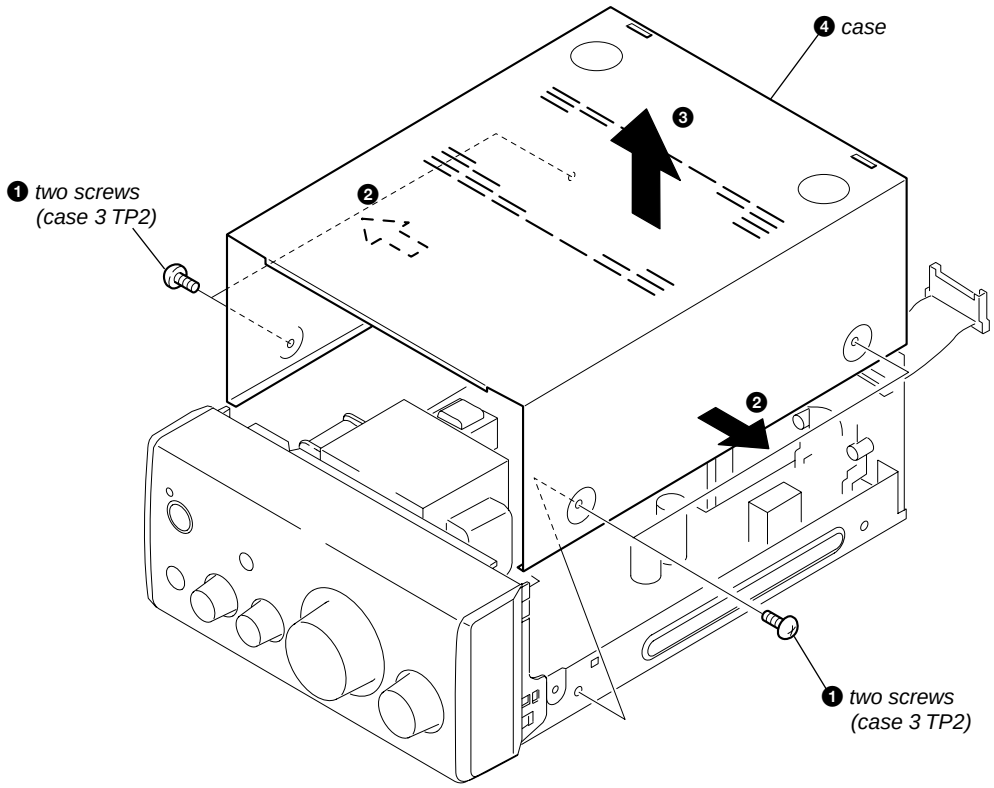
1 Press CLOCK/TIMER SET while the system is off.
The hour indication flashes.



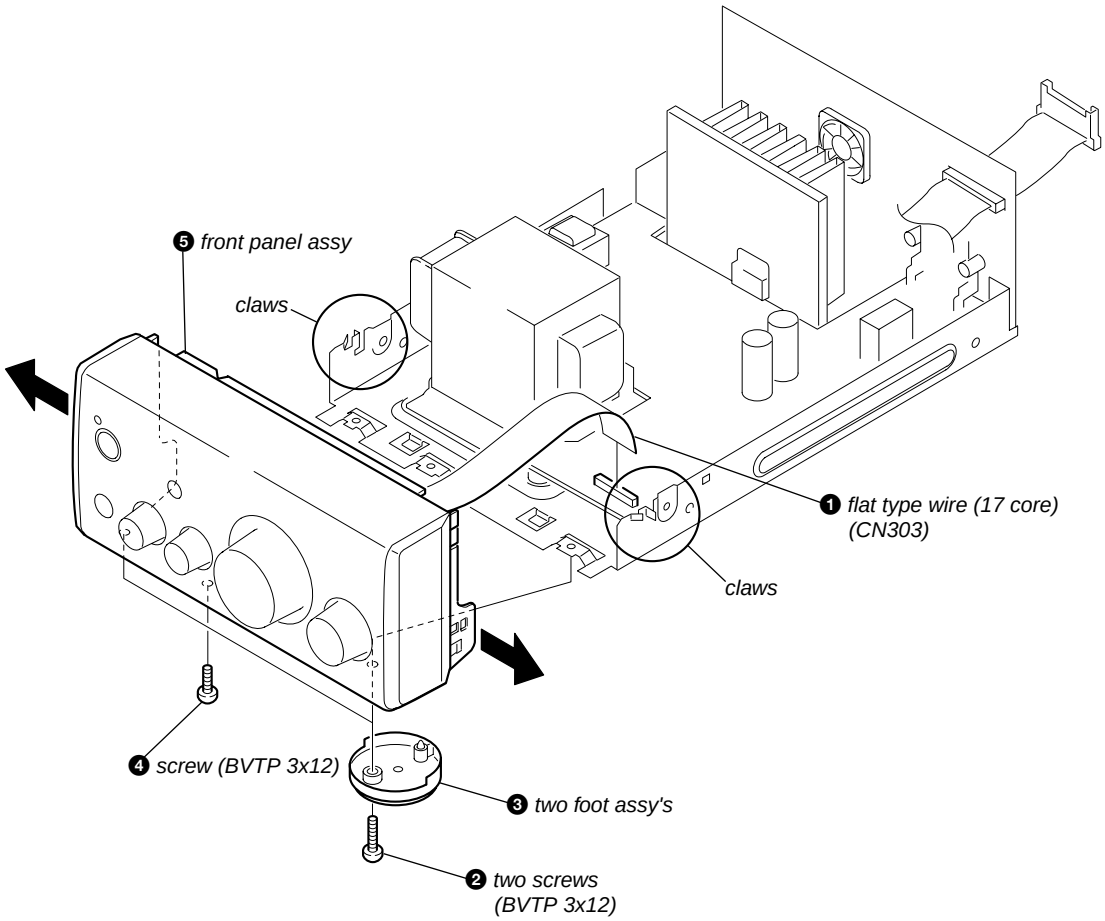
SECTION 3
DISASSEMBLY

Set → Case → Front Panel Assy → HP Board, Panel Board

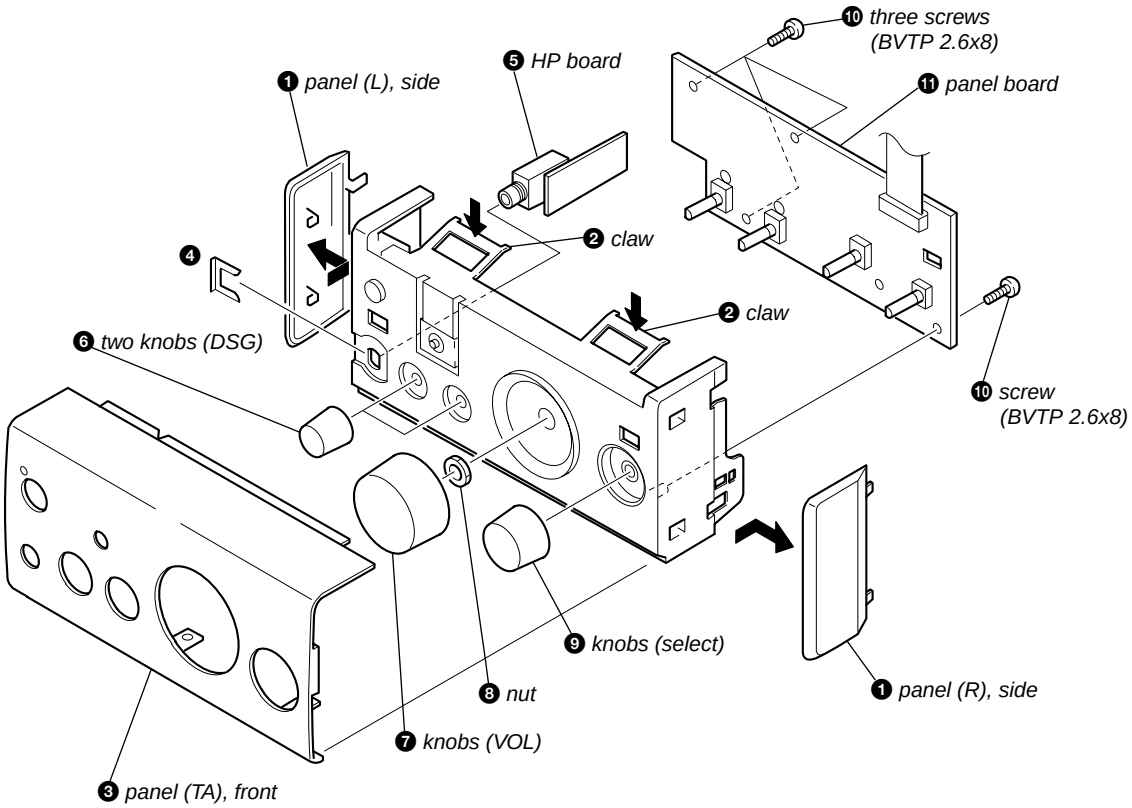
3-1. CASE



3-2. FRONT PANEL ASSY



3-3. HP BOARD, PANEL BOARD



SECTION 4
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

> **Note:**
> The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
> Replace only with part number specified.

- B+ : B+ Line.
- B− : B– Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : FM
- Abbreviation
  AED: North European model
  MY: Malasia model
  SP: Singapore model
  HK: Hong Kong model
  KR: Korea model

For printed wiring boards.

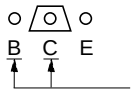
Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- ○ : Through hole.
- : Pattern from the side which enables seeing.

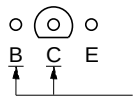
(The other layers' patterns are not indicated.)

> Caution:
> Pattern face side: (Side B) Parts on the pattern face side seen from the pattern face are indicated.
> Parts face side: (Side A) Parts on the parts face side seen from the parts face are indicated.

- **Indication of transistor**



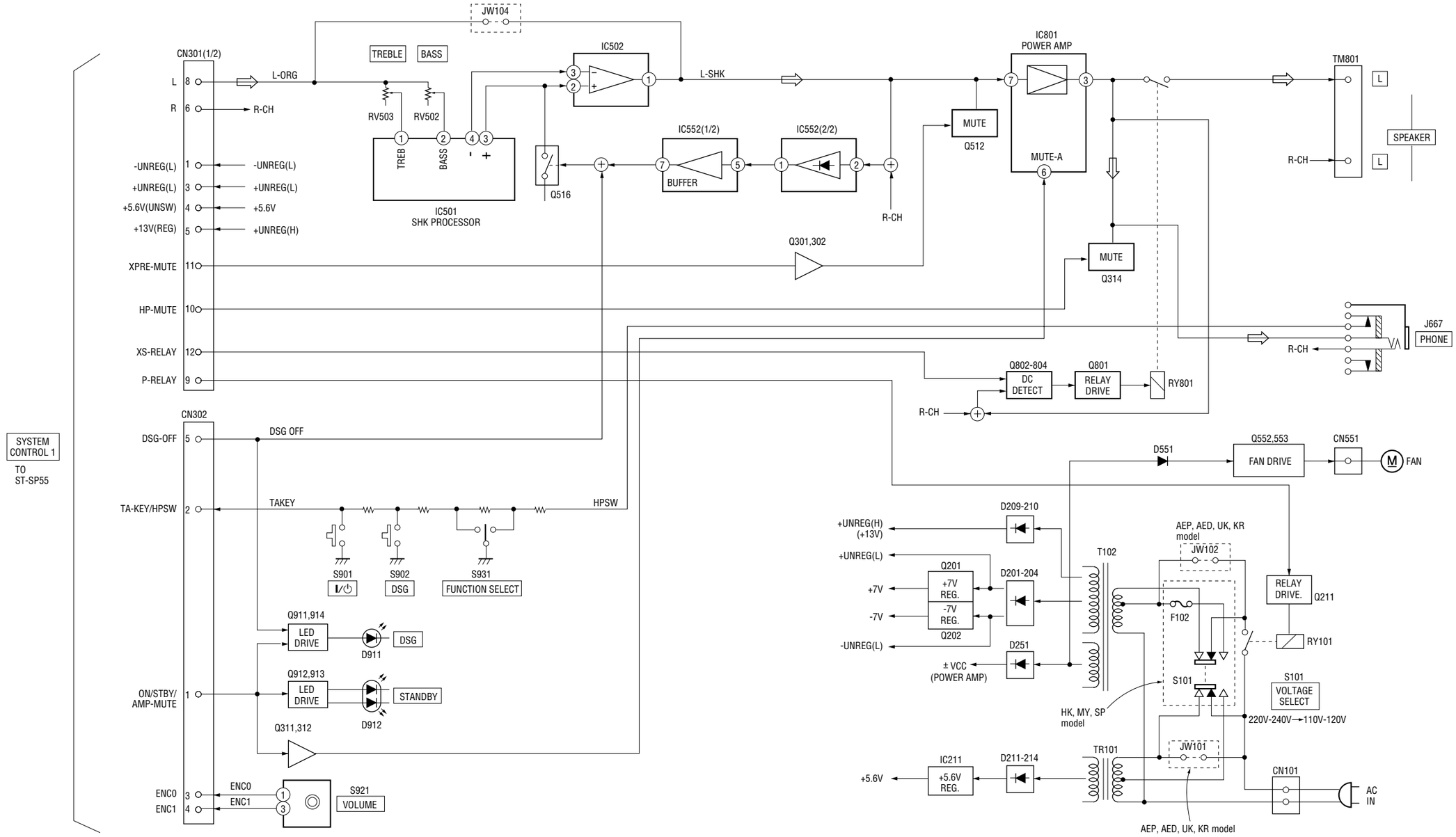
These are omitted.



These are omitted.

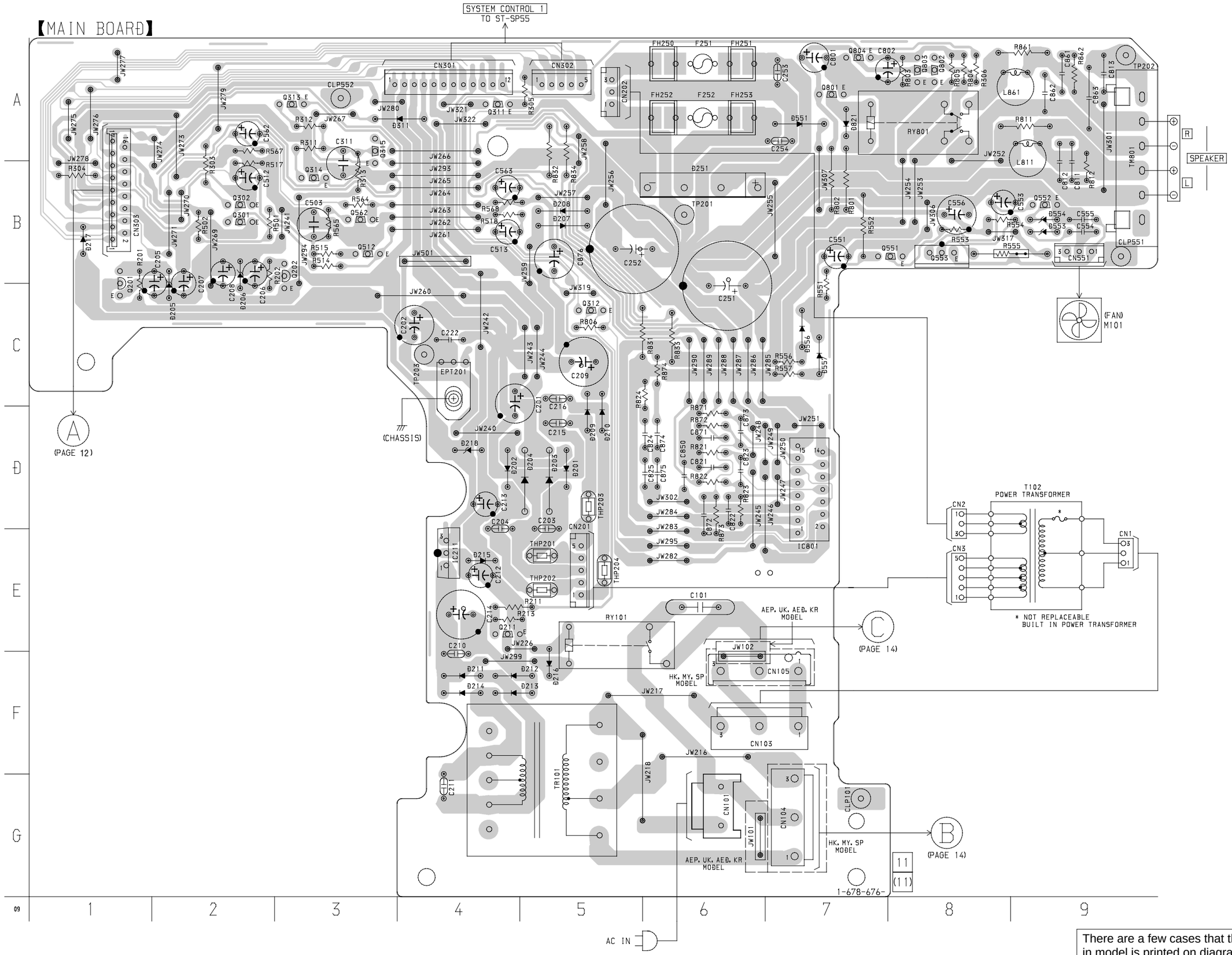
MEMO

4-1. BLOCK DIAGRAM



- R-ch is omitted due to same as L-ch.
- Signal Path
  ⇨: FM

4-2. PRINTED WIRING BOARD – MAIN SECTION –

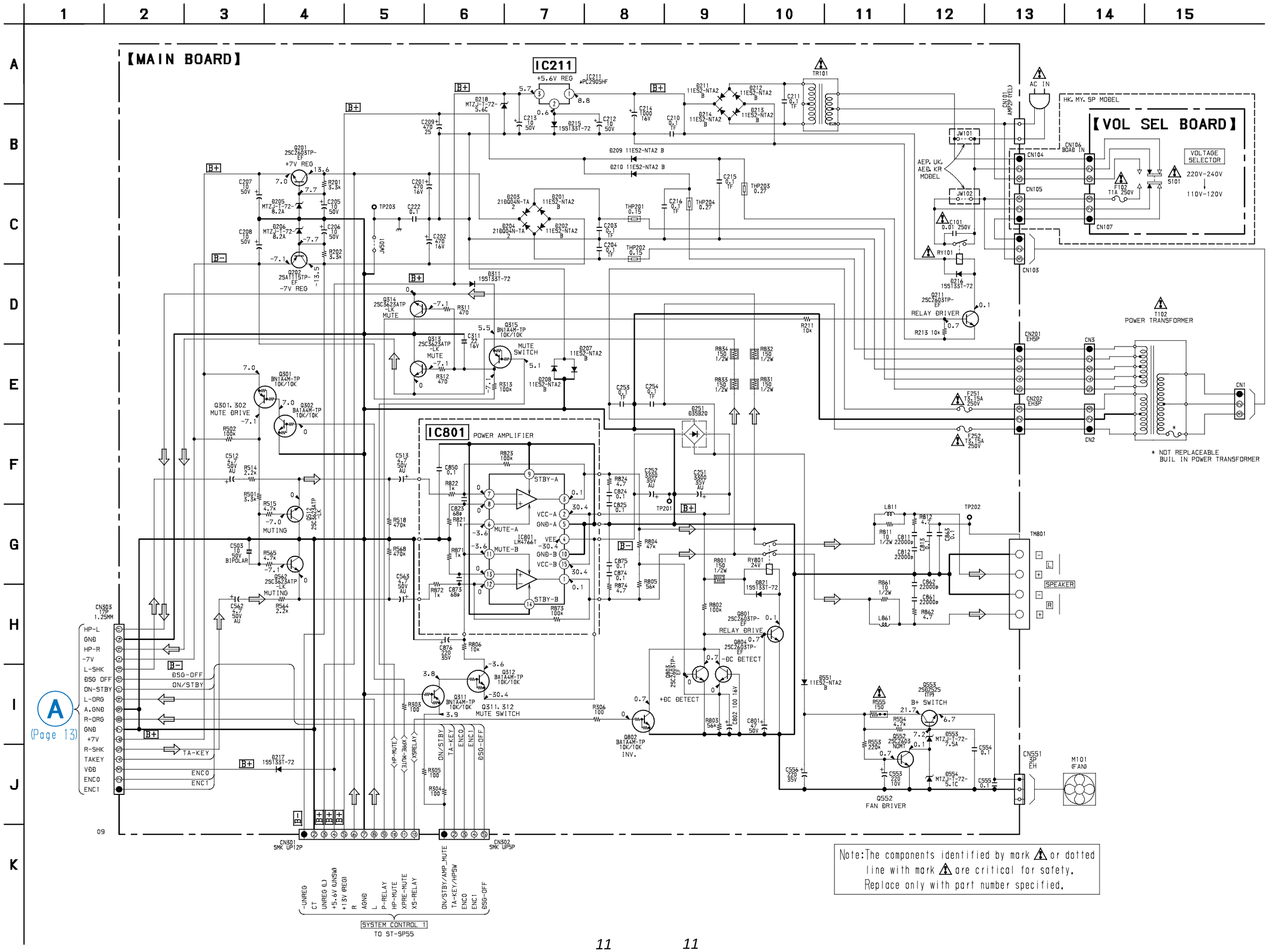


• **Semiconductor Location**

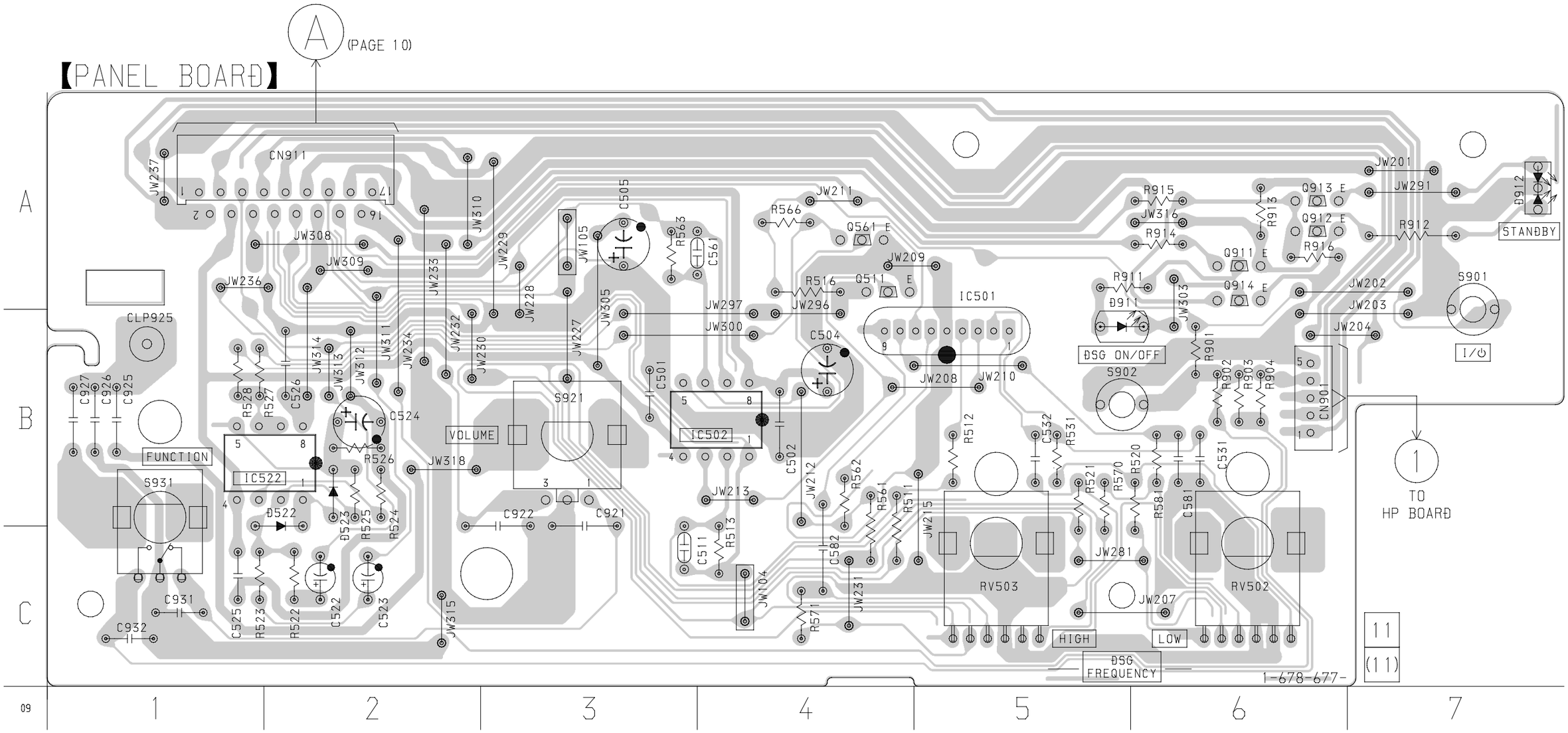
Ref. No.	Location
D201	D-5
D202	D-4
D203	D-5
D204	D-4
D205	C-2
D206	C-2
D207	B-5
D208	B-5
D209	D-5
D210	D-5
D211	F-4
D212	F-4
D213	F-4
D214	F-4
D215	E-4
D216	F-5
D217	B-1
D218	D-4
D251	B-6
D311	A-4
D551	A-7
D553	B-9
D554	B-9
D821	A-7
IC211	E-4
IC801	E-7
Q201	C-1
Q202	B-3
Q211	E-4
Q301	B-2
Q302	B-2
Q311	A-4
Q312	C-5
Q313	A-3
Q314	B-3
Q315	A-3
Q512	B-3
Q552	B-9
Q553	B-8
Q562	B-3
Q801	A-7
Q802	A-8
Q803	A-8
Q804	A-7

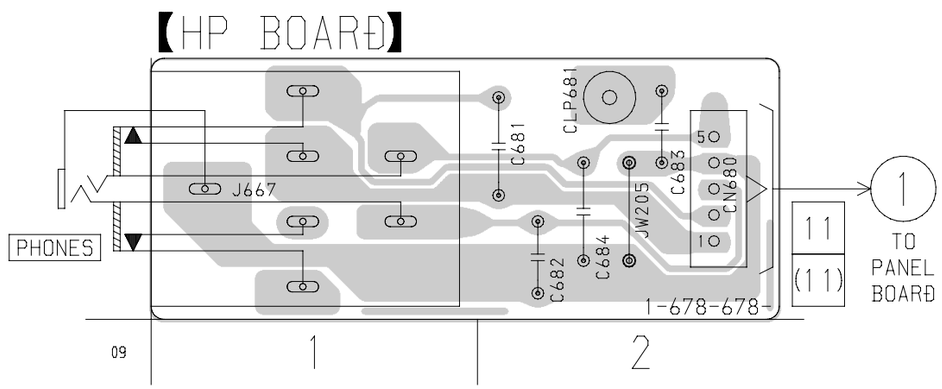
There are a few cases that the part isn't mounted in model is printed on diagram.

4-3. SCHEMATIC DIAGRAM – MAIN SECTION –



4-4. PRINTED WIRING BOARD – PANEL SECTION –



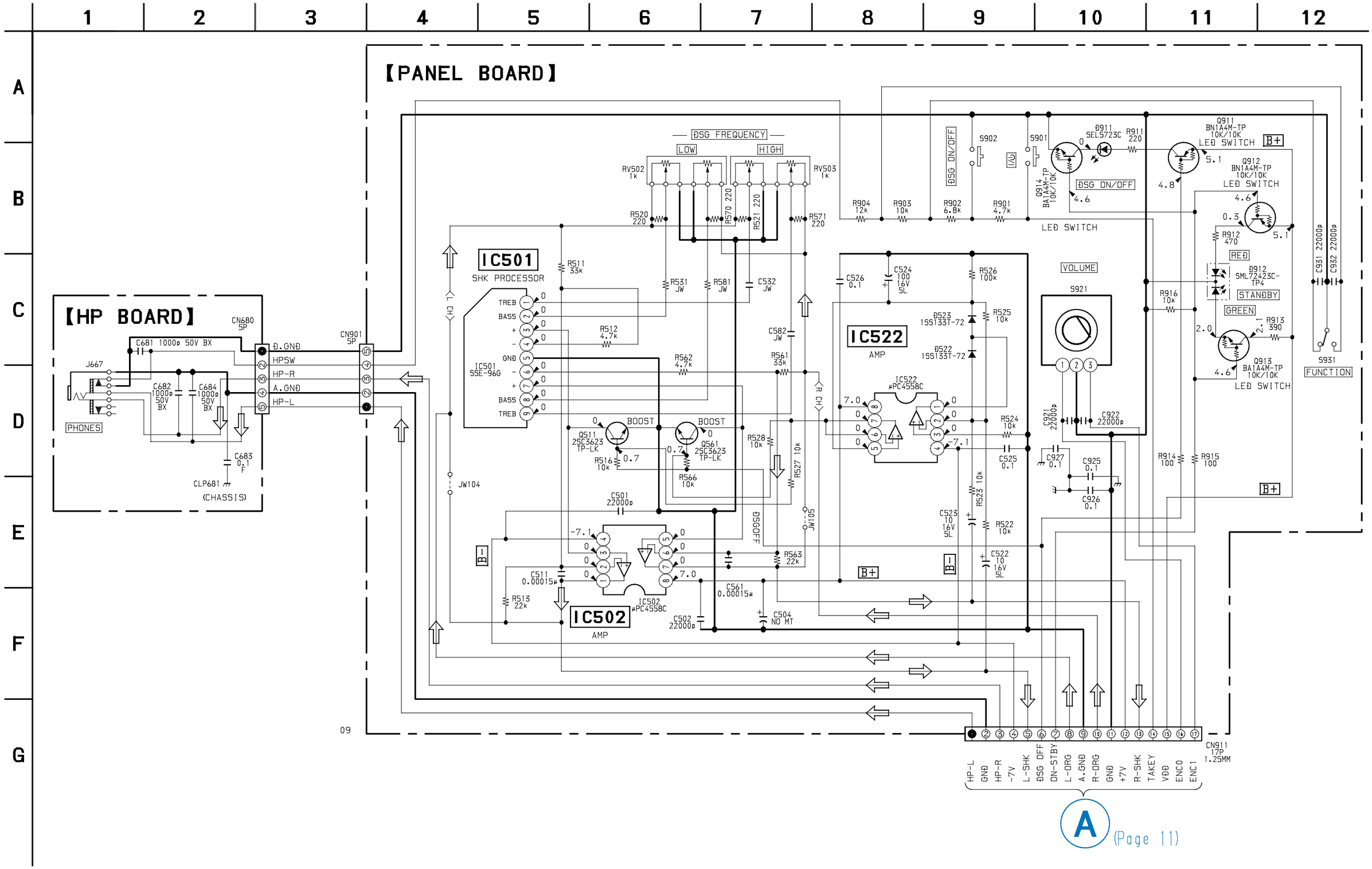


- **Semiconductor Location**

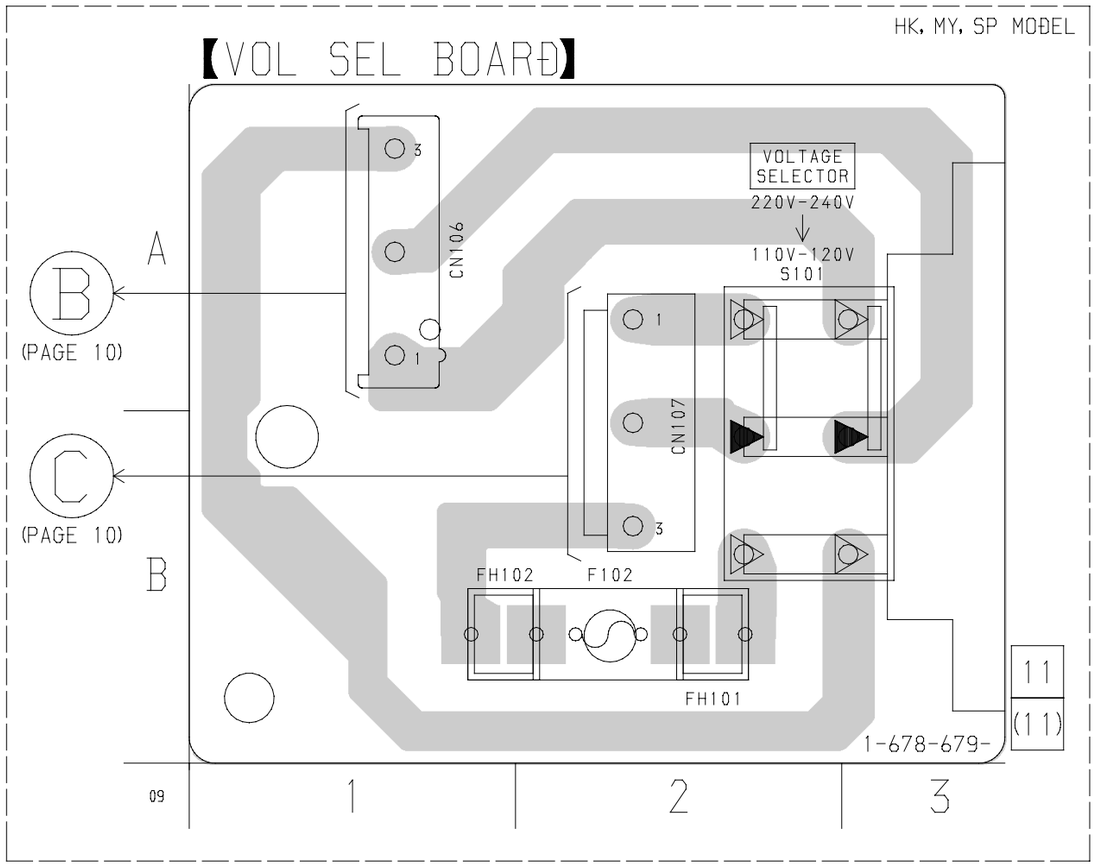
Ref. No.	Location
D522	B-2
D523	B-2
D911	B-5
D912	A-7
IC501	B-5
IC502	B-4
IC522	B-2
Q511	A-4
Q561	A-4
Q911	A-6
Q912	A-6
Q913	A-6
Q914	A-6

There are a few cases that the part isn't mounted in model is printed on diagram.

4-5. SCHEMATIC DIAGRAM – PANEL SECTION –



4-6. PRINTED WIRING BOARD – VOLSEL SECTION –



There are a few cases that the part isn't mounted in model is printed on diagram.

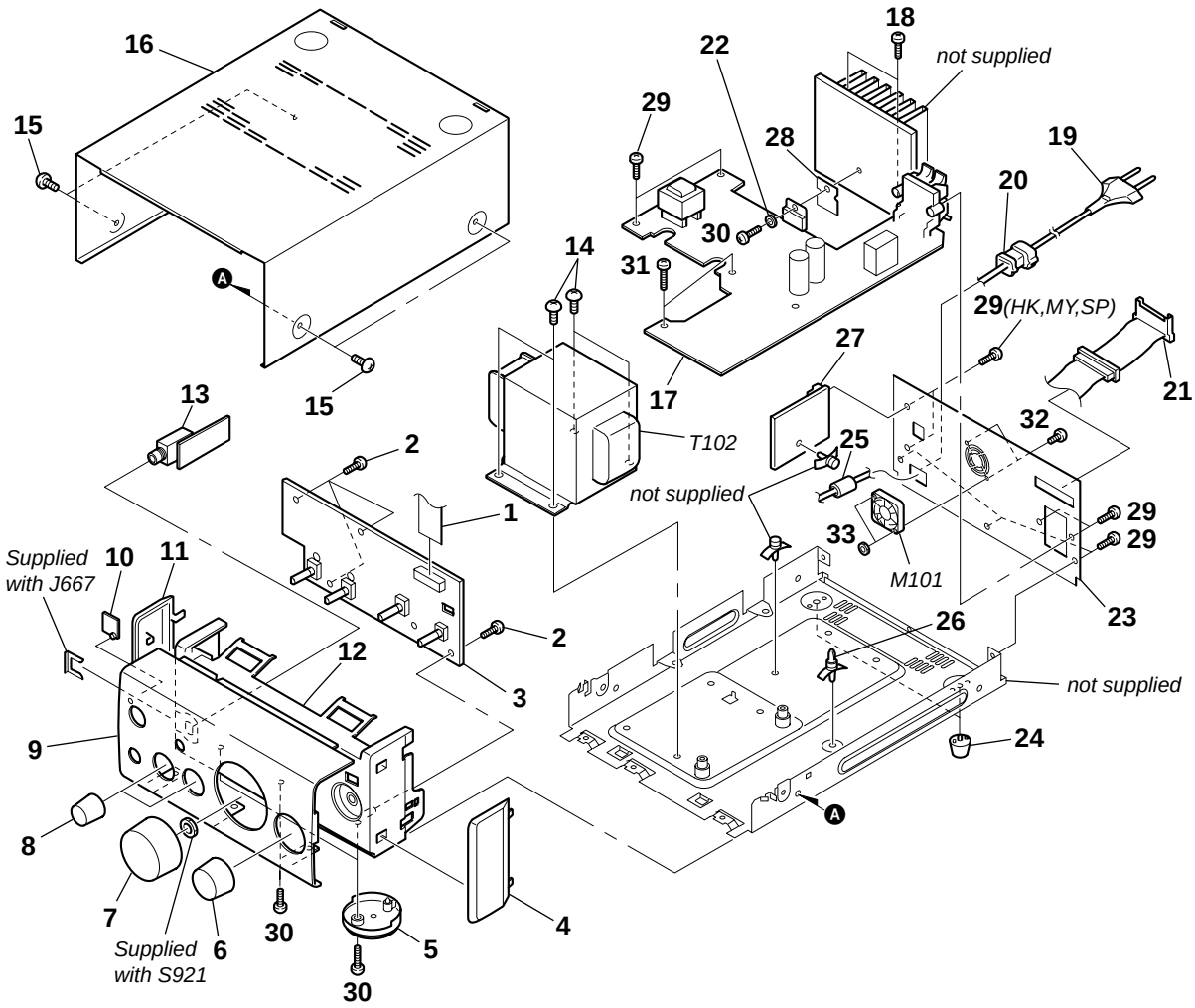
SECTION 5
EXPLODED VIEW

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  AED : North European model
  MY : Malasia model
  SP : Singapore model
  HK : Hong Kong model
  KR : Korea model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1. CASE AND FRONT PANEL



Ref. No.	Part No.	Description	Remarks
1	1-773-043-11	WIRE (FLAT TYPE) (17 CORE)	
2	4-951-620-01	SCREW (2.6X8), +BVTP	
3	1-678-677-11	PANEL BOARD	
4	4-229-703-01	PLATE (R), SIDE	
5	X-4953-027-1	FOOT ASSY	
6	4-229-692-01	KNOB (SELECT)	
7	4-229-691-01	KNOB (VOL)	
8	4-229-693-01	KNOB (DSG)	
9	4-229-690-01	PANEL(TA), FRONT	
10	4-229-697-01	INDICATOR (P)	
11	4-229-704-01	PLATE (L), SIDE	
12	X-4953-023-1	PANEL ASSY (TA), SUB	
13	1-678-678-11	HP BOARD	
14	4-900-386-01	SCREW	
15	3-363-099-51	SCREW (CASE 3 TP2)	
16	4-229-701-31	CASE	
17	A-4473-728-A	MAIN BOARD, COMPLETE (AEP,AED,UK,KR)	
17	A-4473-732-A	MAIN BOARD, COMPLETE (HK,MY,SP)	
18	3-970-608-11	SUMITITE (B3), +BV	
⚠19	1-769-079-11	CORD, POWER (KR)	

Ref. No.	Part No.	Description	Remarks
⚠19	1-777-071-61	CORD, POWER (AEP,AED,UK,HK,MY,SP)	
* 20	3-703-244-00	BUSHING (2104), CORD	
21	1-792-922-11	CORD (WITH CONNECTOR)	
22	4-857-425-00	BUSHING, 03P INSULATING	
23	4-229-700-01	PANEL, BACK (AEP,AED,UK)	
23	4-229-700-21	PANEL, BACK (MY,SP)	
23	4-229-700-31	PANEL, BACK (HK)	
23	4-229-700-41	PANEL, BACK (KR)	
24	4-965-822-01	FOOT	
25	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	
* 26	4-954-051-41	HOLDER, PC BOARD	
27	1-678-679-11	VOL SEL BOARD (HK,MY,SP)	
28	4-230-423-01	SHEET, INSULATING	
29	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
30	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
31	7-685-650-79	SCREW +BVTP 3X16 TYPE2 N-S	
32	7-682-563-09	SCREW +B 4X12	
33	7-684-024-04	N 4, TYPE 2	
M101	1-698-997-21	FAN, D.C.	
⚠T102	1-435-600-11	TRANSFORMER, POWER (AEP,AED,UK,KR)	
⚠T102	1-435-601-11	TRANSFORMER, POWER (HK,MY,SP)	

HP MAIN

SECTION 6
ELECTRICAL PARTS LIST

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  AED : North European model
  MY : Malasia model
  SP : Songapore model
  HK : Hong Kong model
  KR : Korea model

Ref. No.	Part No.	Description			Remarks
	1-678-678-11	HP BOARD			
		*******			
		< CAPACITOR >			
C681	1-162-294-31	CERAMIC	0.001uF	10%	50V
C682	1-162-294-31	CERAMIC	0.001uF	10%	50V
C683	1-164-159-11	CERAMIC	0.1uF		50V
C684	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< JACK >			
J667	1-774-933-11	JACK (LARGE TYPE) (PHONES)			
**********					
	A-4473-728-A	MAIN BOARD, COMPLETE (AEP,AED,UK,KR)			
		**********			
	A-4473-732-A	MAIN BOARD, COMPLETE (HK,MY,SP)			
		**********			
	1-533-293-11	FUSE HOLDER			
*	4-374-846-21	COVER, CAPACITOR, CAP TYPE			
		< CAPACITOR >			
⚠C101	1-113-925-11	CERAMIC	0.01uF	20%	250V
C201	1-126-935-11	ELECT	470uF	20%	16V
C202	1-126-935-11	ELECT	470uF	20%	16V
C203	1-136-165-00	MYLAR	0.1uF	5%	50V
C204	1-136-165-00	MYLAR	0.1uF	5%	50V
C205	1-126-964-11	ELECT	10uF	20%	50V
C206	1-126-964-11	ELECT	10uF	20%	50V
C207	1-126-964-11	ELECT	10uF	20%	50V
C208	1-126-964-11	ELECT	10uF	20%	50V
C209	1-126-941-11	ELECT	470uF	20%	25V
C210	1-136-165-00	MYLAR	0.1uF	5%	50V
C211	1-136-165-00	MYLAR	0.1uF	5%	50V
C212	1-126-964-11	ELECT	10uF	20%	50V
C213	1-126-964-11	ELECT	10uF	20%	50V
C214	1-126-767-11	ELECT	1000uF	20%	16V
C215	1-136-165-00	MYLAR	0.1uF	5%	50V
C216	1-136-165-00	MYLAR	0.1uF	5%	50V
C222	1-164-159-11	CERAMIC	0.1uF		50V
C251	1-126-042-11	ELECT	3300uF	20%	35V
C252	1-126-042-11	ELECT	3300uF	20%	35V
C253	1-136-165-00	MYLAR	0.1uF	5%	50V
C254	1-136-165-00	MYLAR	0.1uF	5%	50V
C311	1-107-715-11	ELECT	22uF	20%	16V

Ref. No.	Part No.	Description			Remarks
C503	1-107-714-11	ELECT	10uF	20%	50V
C512	1-126-047-71	ELECT	4.7uF	20%	50V
C513	1-126-047-71	ELECT	4.7uF	20%	50V
C553	1-126-934-11	ELECT	220uF	20%	10V
C554	1-164-159-11	CERAMIC	0.1uF		50V
C555	1-164-159-11	CERAMIC	0.1uF		50V
C556	1-126-949-11	ELECT	220uF	20%	35V
C562	1-126-047-71	ELECT	4.7uF	20%	50V
C563	1-126-047-71	ELECT	4.7uF	20%	50V
C801	1-126-967-11	ELECT	47uF	20%	50V
C802	1-126-933-11	ELECT	100uF	20%	16V
C811	1-161-494-00	CERAMIC	0.022uF		25V
C812	1-161-494-00	CERAMIC	0.022uF		25V
C813	1-164-159-11	CERAMIC	0.1uF		50V
C823	1-162-219-31	CERAMIC	68PF	5%	50V
C824	1-164-159-11	CERAMIC	0.1uF		50V
C825	1-164-159-11	CERAMIC	0.1uF		50V
C850	1-164-159-11	CERAMIC	0.1uF		50V
C861	1-161-494-00	CERAMIC	0.022uF		25V
C862	1-161-494-00	CERAMIC	0.022uF		25V
C863	1-164-159-11	CERAMIC	0.1uF		50V
C873	1-162-219-31	CERAMIC	68PF	5%	50V
C874	1-164-159-11	CERAMIC	0.1uF		50V
C875	1-164-159-11	CERAMIC	0.1uF		50V
C876	1-126-949-11	ELECT	220uF	20%	35V
		< CONNECTOR >			
* CN101	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P			
CN103	1-564-321-00	PIN, CONNECTOR 2P (AEP,AED,UK,KR)			
* CN103	1-564-687-11	PIN, CONNECTOR 3P (HK,MY,SP)			
* CN104	1-564-687-11	PIN, CONNECTOR 3P (HK,MY,SP)			
* CN201	1-564-508-11	PLUG, CONNECTOR 5P			
CN202	1-564-506-11	PLUG, CONNECTOR 3P			
CN301	1-794-568-11	PIN, CONNECTOR 12P			
CN302	1-794-569-11	PIN, CONNECTOR 5P			
CN303	1-784-778-11	CONNECTOR, FFC 17P			
CN551	1-564-506-11	PLUG, CONNECTOR 3P			
		< DIODE >			
D201	8-719-024-99	DIODE 11ES2-NTA2B			
D202	8-719-024-99	DIODE 11ES2-NTA2B			
D203	8-719-975-85	DIODE 21DQ04N-TA2			
D204	8-719-975-85	DIODE 21DQ04N-TA2			
D205	8-719-947-36	DIODE MTZJ-T-72-8.2A			

Ref. No.	Part No.	Description			Remarks
D206	8-719-947-36	DIODE MTZJ-T-72-8.2A			
D207	8-719-024-99	DIODE 11ES2-NTA2B			
D208	8-719-024-99	DIODE 11ES2-NTA2B			
D209	8-719-024-99	DIODE 11ES2-NTA2B			
D210	8-719-024-99	DIODE 11ES2-NTA2B			
D211	8-719-024-99	DIODE 11ES2-NTA2B			
D212	8-719-024-99	DIODE 11ES2-NTA2B			
D213	8-719-024-99	DIODE 11ES2-NTA2B			
D214	8-719-024-99	DIODE 11ES2-NTA2B			
D215	8-719-911-19	DIODE 1SS133T-72			
D216	8-719-911-19	DIODE 1SS133T-72			
D217	8-719-911-19	DIODE 1SS133T-72			
D218	8-719-921-48	DIODE MTZJ-T-72-5.6C			
D251	8-719-500-33	DIODE D3SB20			
D311	8-719-911-19	DIODE 1SS133T-72			
D551	8-719-024-99	DIODE 11ES2-NTA2B			
D553	8-719-947-33	DIODE MTZJ-T-72-7.5A			
D554	8-719-921-44	DIODE MTZJ-T-72-5.1C			
D821	8-719-911-19	DIODE 1SS133T-72			
		< GROUND TERMINAL >			
EPT201	1-537-770-21	TERMINAL BOARD, GROUND			
		< FUSE >			
⚠F251	1-532-465-31	FUSE T3.15AL/250V			
⚠F252	1-532-465-31	FUSE T3.15AL/250V			
		< IC >			
IC211	8-759-647-11	IC uPC2905HF			
IC801	8-759-681-35	IC LM4766T			
		< COIL >			
L811	1-420-872-00	COIL, AIR-CORE			
L861	1-420-872-00	COIL, AIR-CORE			
		< TRANSISTOR >			
Q201	8-729-620-05	TRANSISTOR 2SC2603TP-EF			
Q202	8-729-119-76	TRANSISTOR 2SA1115TP-EF			
Q211	8-729-620-05	TRANSISTOR 2SC2603TP-EF			
Q301	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q302	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q311	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q312	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q313	8-729-141-30	TRANSISTOR 2SC3623ATP-LK			
Q314	8-729-141-30	TRANSISTOR 2SC3623ATP-LK			
Q315	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q512	8-729-141-30	TRANSISTOR 2SC3623ATP-LK			
Q552	8-729-620-05	TRANSISTOR 2SC2603TP-EF			
Q553	8-729-026-68	TRANSISTOR 2SD2525(TP)			
Q562	8-729-141-30	TRANSISTOR 2SC3623ATP-LK			
Q801	8-729-620-05	TRANSISTOR 2SC2603TP-EF			
Q802	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q803	8-729-620-05	TRANSISTOR 2SC2603TP-EF			
Q804	8-729-620-05	TRANSISTOR 2SC2603TP-EF			
		< RESISTOR >			
R201	1-247-843-11	CARBON	3.3K	5%	1/4W
R202	1-247-843-11	CARBON	3.3K	5%	1/4W
R211	1-249-429-11	CARBON	10K	5%	1/4W
R213	1-249-429-11	CARBON	10K	5%	1/4W
R303	1-247-807-31	CARBON	100	5%	1/4W
R304	1-247-807-31	CARBON	100	5%	1/4W
R305	1-247-807-31	CARBON	100	5%	1/4W
R306	1-247-807-31	CARBON	100	5%	1/4W
R311	1-249-413-11	CARBON	470	5%	1/4W F
R312	1-249-413-11	CARBON	470	5%	1/4W F
R313	1-249-441-11	CARBON	100K	5%	1/4W
R501	1-247-843-11	CARBON	3.3K	5%	1/4W
R502	1-249-441-11	CARBON	100K	5%	1/4W
R514	1-249-421-11	CARBON	2.2K	5%	1/4W F
R515	1-249-425-11	CARBON	4.7K	5%	1/4W F
R518	1-247-895-00	CARBON	470K	5%	1/4W
R553	1-247-887-00	CARBON	220K	5%	1/4W
R554	1-249-425-11	CARBON	4.7K	5%	1/4W F
⚠R555	1-215-887-11	METAL OXIDE	150	5%	2W
R564	1-249-421-11	CARBON	2.2K	5%	1/4W F
R565	1-249-425-11	CARBON	4.7K	5%	1/4W F
R568	1-247-895-00	CARBON	470K	5%	1/4W
R801	1-260-089-11	CARBON	150	5%	1/2W
R802	1-249-441-11	CARBON	100K	5%	1/4W
R803	1-249-438-11	CARBON	56K	5%	1/4W
R804	1-249-437-11	CARBON	47K	5%	1/4W
R805	1-249-438-11	CARBON	56K	5%	1/4W
R806	1-249-429-11	CARBON	10K	5%	1/4W
R811	1-260-076-11	CARBON	10	5%	1/2W
R812	1-249-389-11	CARBON	4.7	5%	1/4W F
R821	1-249-417-11	CARBON	1K	5%	1/4W F
R822	1-249-417-11	CARBON	1K	5%	1/4W F
R823	1-249-441-11	CARBON	100K	5%	1/4W
R824	1-249-389-11	CARBON	4.7	5%	1/4W F
R831	1-260-089-11	CARBON	150	5%	1/2W
R832	1-260-089-11	CARBON	150	5%	1/2W
R833	1-260-089-11	CARBON	150	5%	1/2W
R834	1-260-089-11	CARBON	150	5%	1/2W
R861	1-260-076-11	CARBON	10	5%	1/2W
R862	1-249-389-11	CARBON	4.7	5%	1/4W F
R871	1-249-417-11	CARBON	1K	5%	1/4W F
R872	1-249-417-11	CARBON	1K	5%	1/4W F
R873	1-249-441-11	CARBON	100K	5%	1/4W
R874	1-249-389-11	CARBON	4.7	5%	1/4W F
		< RELAY >			
RY101	1-755-276-11	RELAY, POWER			
RY801	1-515-920-11	RELAY (24V)			
		< THERMISTOR(POSITIVE) >			
THP201	1-804-233-21	THERMISTOR, POSITIVE			
THP202	1-804-233-21	THERMISTOR, POSITIVE			
THP203	1-804-234-21	THERMISTOR, POSITIVE			
THP204	1-804-234-21	THERMISTOR, POSITIVE			
		< TERMINAL >			
TM801	1-694-677-11	TERMINAL BOARD (4P) (SPEAKERS)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN PANEL VOL SEL

Ref. No.	Part No.	Description				Remarks
		< POWER TRANSFORMER >				
⚠TR101	1-435-624-11	TRANSFORMER, POWER (AEP,AED,UK,KR)				
⚠TR101	1-435-625-11	TRANSFORMER, POWER (HK,MY,SP)				
**********						
	1-678-677-11	PANEL BOARD				
		**********				
		< CAPACITOR >				
C501	1-161-494-00	CERAMIC	0.022uF		25V	
C502	1-161-494-00	CERAMIC	0.022uF		25V	
C511	1-110-337-51	MYLAR	150PF	5%	50V	
C522	1-126-157-11	ELECT	10uF	20%	16V	
C523	1-126-157-11	ELECT	10uF	20%	16V	
C524	1-126-933-11	ELECT	100uF	20%	16V	
C525	1-164-159-11	CERAMIC	0.1uF		50V	
C526	1-164-159-11	CERAMIC	0.1uF		50V	
C561	1-110-337-51	MYLAR	150PF	5%	50V	
C921	1-161-494-00	CERAMIC	0.022uF		25V	
C922	1-161-494-00	CERAMIC	0.022uF		25V	
C925	1-164-159-11	CERAMIC	0.1uF		50V	
C926	1-164-159-11	CERAMIC	0.1uF		50V	
C927	1-164-159-11	CERAMIC	0.1uF		50V	
C931	1-161-494-00	CERAMIC	0.022uF		25V	
C932	1-161-494-00	CERAMIC	0.022uF		25V	
		< LEAD >				
* CLP925	1-690-880-31	LEAD (WITH CONNECTOR)				
		< CONNECTOR >				
CN911	1-784-739-11	CONNECTOR, FFC 17P				
		< DIODE >				
D522	8-719-911-19	DIODE 1SS133T-72				
D523	8-719-911-19	DIODE 1SS133T-72				
D911	8-719-071-42	DIODE SEL5723C-TP15 (DSG ON/OFF)				
D912	8-719-056-11	DIODE SML72423C-TP15 (STANDBY)				
		< IC >				
IC501	8-749-015-28	IC SSE-96G				
IC502	8-759-705-58	IC NJM4558D-D				
IC522	8-759-705-58	IC NJM4558D-D				
		< TRANSISTOR >				
Q511	8-729-141-30	TRANSISTOR 2SC3623ATP-LK				
Q561	8-729-141-30	TRANSISTOR 2SC3623ATP-LK				
Q911	8-729-422-57	TRANSISTOR BN1A4M-TP				
Q912	8-729-422-57	TRANSISTOR BN1A4M-TP				
Q913	8-729-900-80	TRANSISTOR BA1A4M-TP				
Q914	8-729-900-80	TRANSISTOR BA1A4M-TP				
		< RESISTOR >				
R511	1-249-435-11	CARBON	33K	5%	1/4W	
R512	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R513	1-249-433-11	CARBON	22K	5%	1/4W	
R516	1-249-429-11	CARBON	10K	5%	1/4W	
R520	1-249-409-11	CARBON	220	5%	1/4W	F
R521	1-249-409-11	CARBON	220	5%	1/4W	F

Ref. No.	Part No.	Description				Remarks
R522	1-249-429-11	CARBON	10K	5%	1/4W	
R523	1-249-429-11	CARBON	10K	5%	1/4W	
R524	1-249-429-11	CARBON	10K	5%	1/4W	
R525	1-249-429-11	CARBON	10K	5%	1/4W	
R526	1-249-441-11	CARBON	100K	5%	1/4W	
R527	1-249-429-11	CARBON	10K	5%	1/4W	
R528	1-249-429-11	CARBON	10K	5%	1/4W	
R561	1-249-435-11	CARBON	33K	5%	1/4W	
R562	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R563	1-249-433-11	CARBON	22K	5%	1/4W	
R566	1-249-429-11	CARBON	10K	5%	1/4W	
R570	1-249-409-11	CARBON	220	5%	1/4W	F
R571	1-249-409-11	CARBON	220	5%	1/4W	F
R901	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R902	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R903	1-249-429-11	CARBON	10K	5%	1/4W	
R904	1-249-430-11	CARBON	12K	5%	1/4W	
R911	1-249-409-11	CARBON	220	5%	1/4W	F
R912	1-249-413-11	CARBON	470	5%	1/4W	F
R913	1-249-412-11	CARBON	390	5%	1/4W	F
R914	1-247-807-31	CARBON	100	5%	1/4W	
R915	1-247-807-31	CARBON	100	5%	1/4W	
R916	1-249-429-11	CARBON	10K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV502	1-227-202-11	RES, VAR 1K (DSG FREQ. LOW)				
RV503	1-227-202-11	RES, VAR 1K (DSG FREQ. HIGH)				
		< SWITCH >				
S901	1-771-410-21	SWITCH, TACTILE (I/⏻)				
S902	1-771-410-21	SWITCH, TACTILE (DSG ON/OFF)				
S921	1-476-087-11	ENCODER, ROTARY (VOLUME)				
S931	1-771-963-11	SWITCH (FUNCTION)				
**********						
	1-678-679-11	VOL SEL BOARD (HK,MY,SP)				
		**********				
	1-533-293-11	FUSE HOLDER (HK,MY,SP)				
		< CONNECTOR >				
* CN107	1-564-687-11	PIN, CONNECTOR 3P (HK,MY,SP)				
		< FUSE >				
⚠F102	1-532-463-31	FUSE 1A/250V (HK,MY,SP) (HK,MY,SP)				
		< SWITCH >				
⚠S101	1-571-309-11	SWITCH (VOLTAGE SELECTOR) (HK,MY,SP)				
**********						

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS	
		**********	
1	1-773-043-11	WIRE (FLAT TYPE) (17 CORE)	
⚠19	1-769-079-11	CORD, POWER (KR)	
⚠19	1-777-071-61	CORD, POWER (AEP,AED,UK,HK,MY,SP)	
21	1-792-922-11	CORD (WITH CONNECTOR)	
25	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	
M101	1-698-997-21	FAN, D.C.	
⚠T102	1-435-600-11	TRANSFORMER, POWER (AEP,AED,UK,KR)	
⚠T102	1-435-601-11	TRANSFORMER, POWER (HK,MY,SP)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-569-008-21	ADAPTOR, CONVERSION 2P (MY,SP)	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK,HK)	

9-929-535-11

Sony Corporation
Audio Entertainment Group

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CDP-SP55

SERVICE MANUAL

AEP Model
UK Model
E Model

CDP-SP55 is the CD section in CMT-SP55MD or CMT-SP55TC.

This stereo system is equipped with the Dolby* B-type noise reduction system.
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡⊡ are trademarks of the Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM55C-K6BD38
Base Unit Type	BU-K6BD38
Optical Pick-up Type	KSM-213DCP/Z-NP

SPECIFICATIONS

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780 nm) Emission duration: continuous
Laser output	Max. 44.6 µW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Frequency response	20 Hz – 20 kHz
Output	
DIGITAL OPTICAL OUT:	Optical

General

Dimensions (w/h/d)	Approx. 202 × 75 × 290 mm
Mass	Approx. 1.5 kg

Design and specifications are subject to change without notice.

MINI Hi-Fi COMPONENT SYSTEM

SONY®

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NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

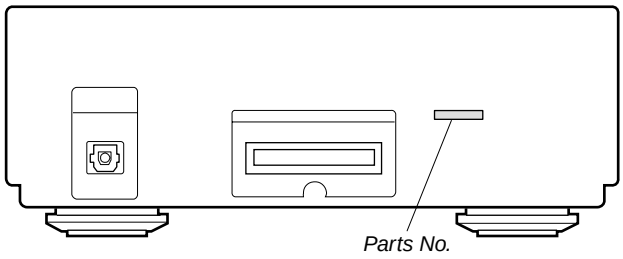
- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

— BACK PANEL —



MODEL	PARTS No.
AEP,UK,AED models	4-229-674-0☐
HK,MY,SP models	4-229-674-2☐
KR model	4-229-674-3☐

- Abbreviation
  AED : North European model
  HK : Hong Kong model
  MY : Malaysia model
  SP : Singapore model
  KR : Korea model

SECTION 1
SERVICING NOTE

This unit cannot be repaired by itself.
When repairing, connect the whole system except for the speaker.

CD Text Display

- This unit displays CD text.
  Text is displayed for the first 50 track only and will not be displayed from the 51st track onwards. Do not suspect a fault in this case.
  In some cases, some special characters will not be displayed and may be replaced by other characters. Do not suspect a fault in this case.

Cold Reset

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and ▶▶▷▷| buttons (CDP) together.
2. "COLD RESET" is displayed on the fluorescent indicator tube and reset is executed.

Hot Reset

- This mode reset the preset data kept in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and |◁◁◀◀ buttons (CDP) together.
2. Turn off the unit and reset is executed.

GC Test Mode

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and PLAY MODE buttons (CDP) together.
2. Fluorescent indicator tube are all turned on.
3. Press TUNING MODE button (ST) to enter the model destination indecation mode. "SP55 CE2" appears.
4. Every pressing of TUNING MODE button (ST) changes the display in the following order.
   MC Version → CD Version → ST Version → TC Version → TA Version → TM Version → model destination display.
5. Press DISPLAY button (ST) and the date appears as " 00615a "
   Every pressing of DISPLAY button (ST) changes the display in the Version display and model destination display.
6. Press TUNER/BAND button (ST) to enter the key check mode.
7. In the key check mode, the fluorescent indicator tube displays "Key 0 Vol 0". Each time a button is pressed, "Key" value increases. However, once a button is pressed, it is no longer taken into account.
   "Vol" Value increases like "1, 2, 3 ..." if rotating VOLUME knob (TA) in the clockwise direction, or decreases like "0, 9, 8 ..." if rotating in the counterclockwise diretion.
8. To exit from this mode, press three buttons in the same procedure as step 1, or disconnect the power cord.

Aging Mode

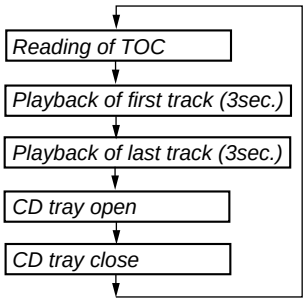
• Mode for repeating operations of the CD player and TC deck automatically.

When errors occur:
Aging stops and a message indicating that an error has occurred such as “CD MEC ERR” is displayed.
(For details of errors, refer to “Error History Display Mode”.)

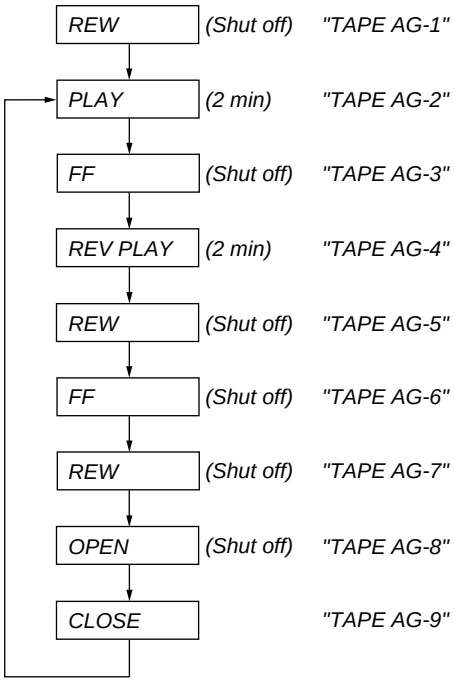
When no errors occur:
Aging is repeatedly performed.

Procedure:
1. Load any CD and a tape.
2. Select the function “ CD ” using the FUNCTION knob (TA).
3. While pressing the TUNING MODE button (ST) and ▷ button (CDP), press the I/⏻ button (TA).
4. “AGING” is displayed on the fluorescent display tube briefly.
5. Operations are performed in the following sequence during aging.
   Every pressing of DISPLAY button (ST) changes the display in the CD display and TAPE display.

CD :



Cassette :



6. To end aging, execute the cold reset.

Error History Display Mode

Mode for checking the history of errors which have occurred in the CD player.
Execute this mode after ending the aging mode.

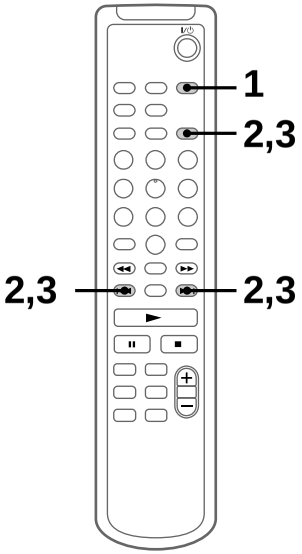
Procedure:
1. Select the function “ CD ” using the FUNCTION knob (TA).
2. While pressing the TUNING MODE button (ST) and ▯▯ button (CDP), press the I/⏻ button (TA).
3. “EMC@@EDC**” id displayed.
   @@ : Number of mechanism errors (Last 3 errors)
   ** : Number of errors (NO DISC ERROR) which occurred after chucking (Last 3 errors)
4. To end, press the I/⏻ button (TA) and turn OFF the power.

Note: To erase the error history, perform cold reset.
(While pressing the TUNING MODE button (ST) and ▶▶▷▷▮ button (CDP), press the I/⏻ button (TA).)

Step 2: Setting the time

You must set the time beforehand to use the timer functions.
The clock is on a 24-hour system for the European model, and a 12-hour system for other models. The 24-hour system is used for illustration purposes.

Set the time before turning on the system.



1 Press CLOCK/TIMER SET while the system is off.
The hour indication flashes.

2 Press ⏮ or ⏭ to set the hour, then press ENTER/YES.
The minute indication flashes.

3 Press ⏮ or ⏭ to set the minute, then press ENTER/YES.
The clock starts.

If you made a mistake

Start over from step 1.

To change the preset time

You can change the preset time while the system is on.

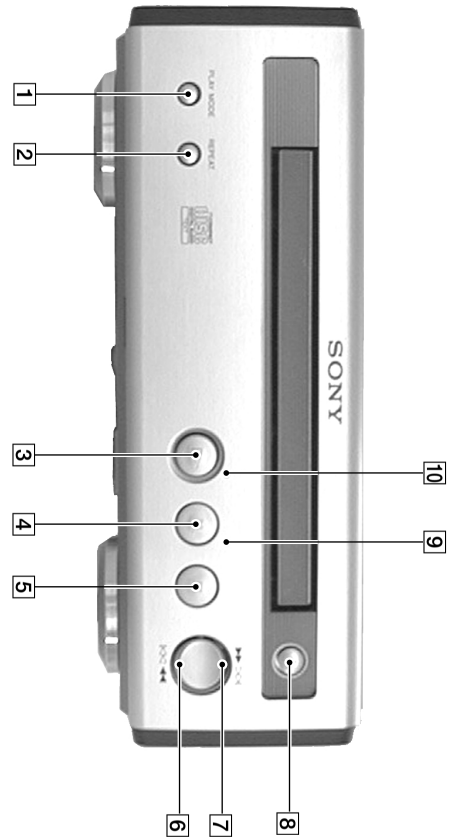
1 Press CLOCK/TIMER SET.
2 Press ⏮ or ⏭ repeatedly until "SET CLOCK" appears, then press ENTER/YES.
3 Repeat steps 2 and 3.

Tips

- The built-in clock shows the time in the display while the system is off. If you press DISPLAY at this time, the display back light lights up, making the clock easier to see.
- The upper dot of the colon flashes for the first 30 seconds, and the lower dot flashes for the last 30 seconds of each minute.

SECTION 2
GENERAL

This section is extracted from instruction manual.



1 PLAY MODE button
2 REPEAT button
3 ▽ button
4 ▯▯ button
5 □ button
6 ⏮△▲⏭ button
7 ▼▽▷⏭ button
8 ⏭ button
9 ▯▯ indicator
10 ▽ indicator

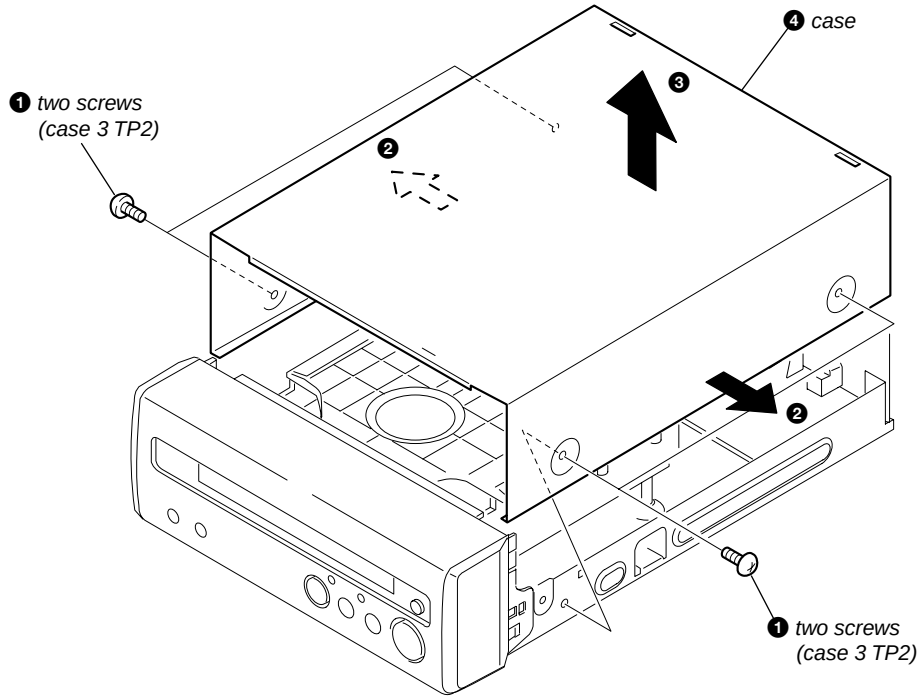
SECTION 3
DISASSEMBLY

Set → Case → Front Panel Assy → Main Board (Page 8)

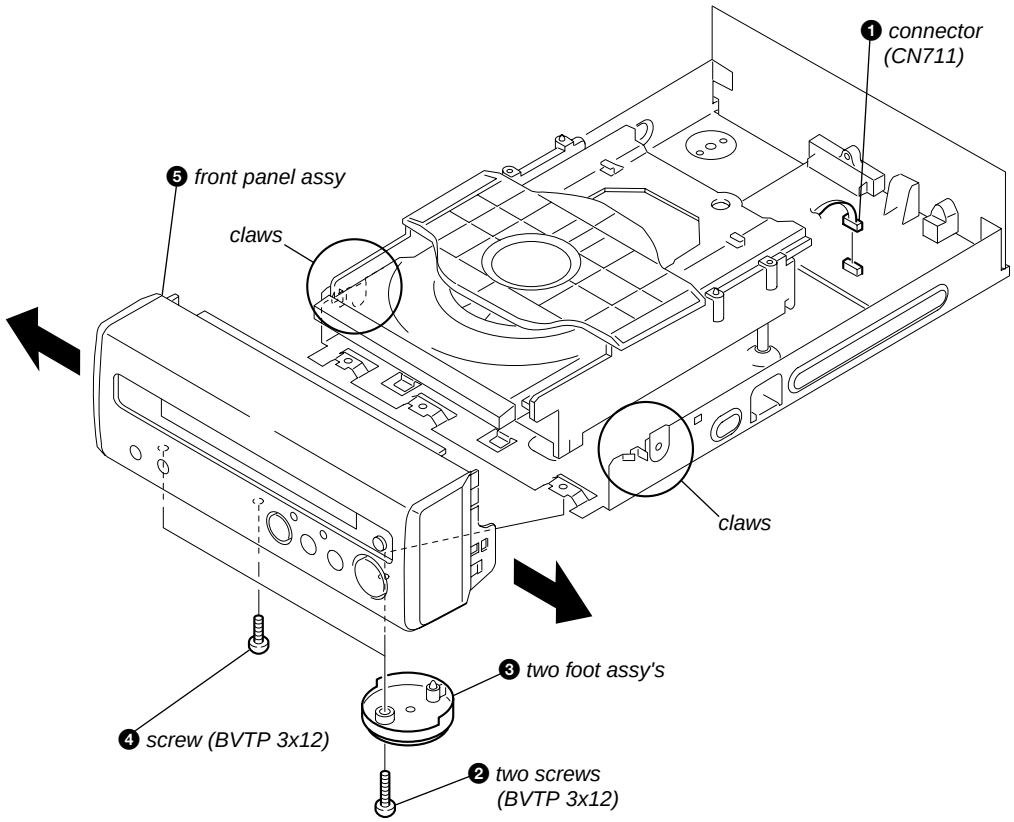
Front Panel Assy → CD Mechanism Deck (CDM55C-K6BD38) (Page 8) → Cam, Gear (Page 9)

Front Panel Assy → Holder Assy (Page 9) → Optical pick-up (Page 10) → BD Board (Page 10)

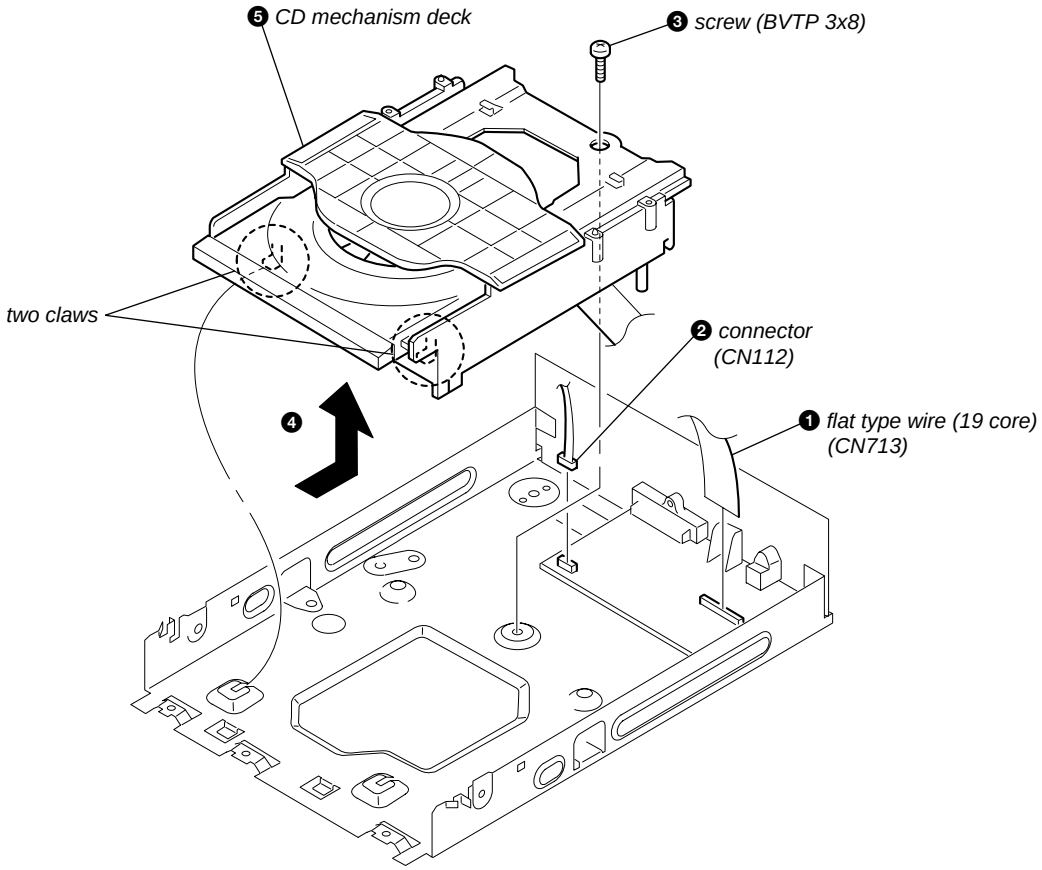
3-1. CASE



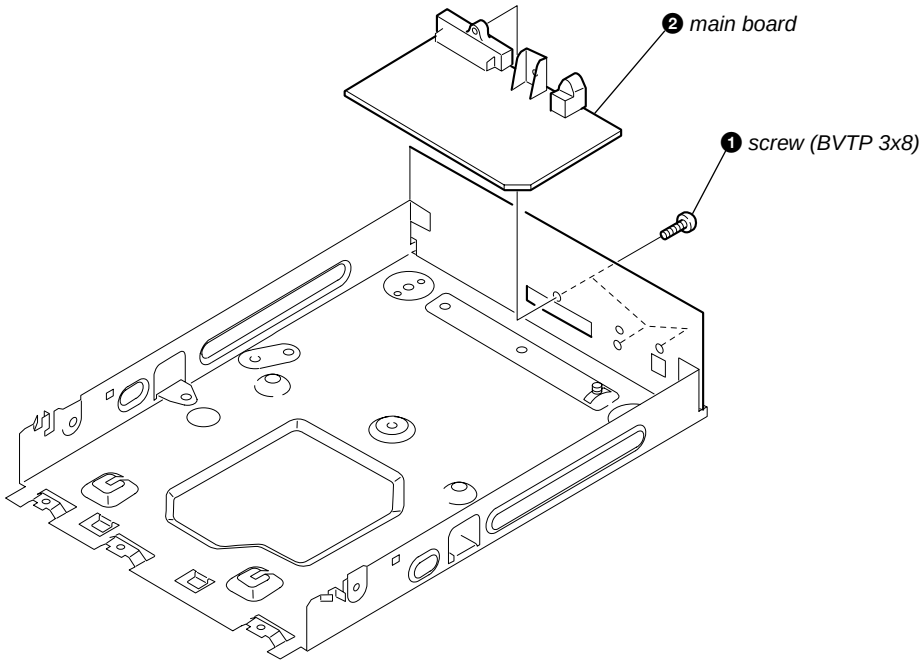
3-2. FRONT PANEL ASSY



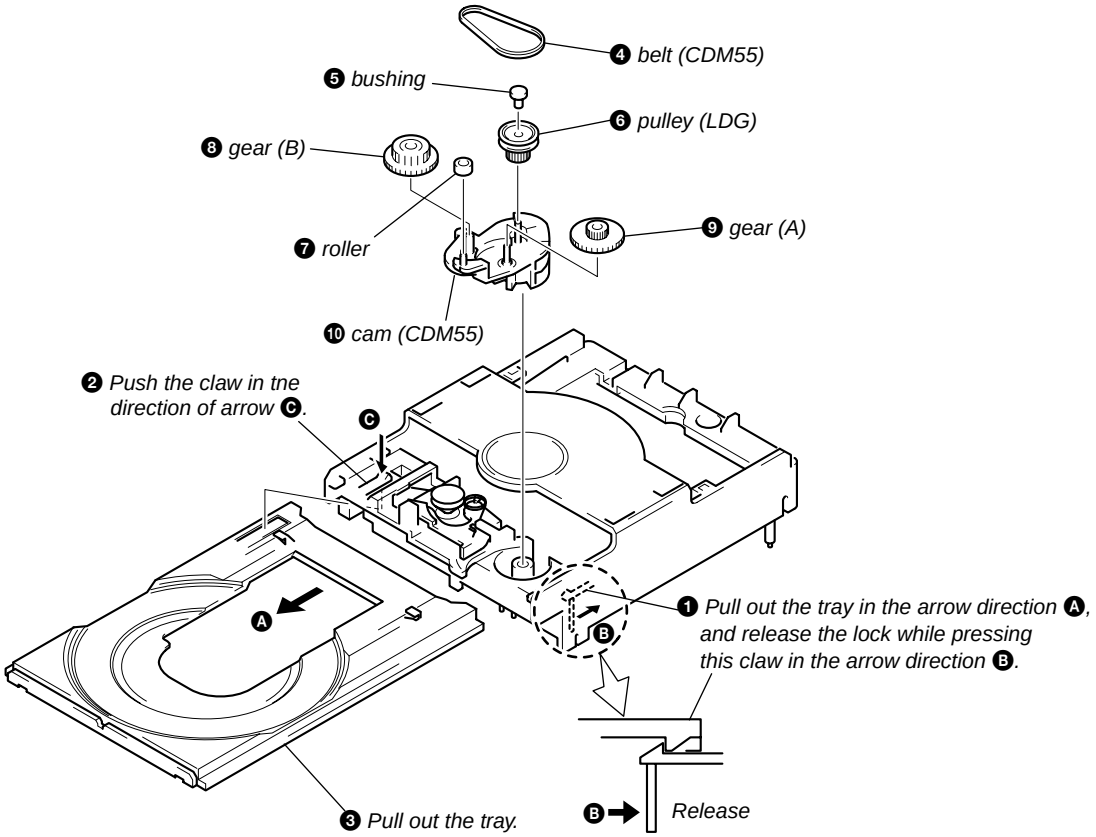
3-3. CD MECHANISM DECK (CDM55C-K6BD38)



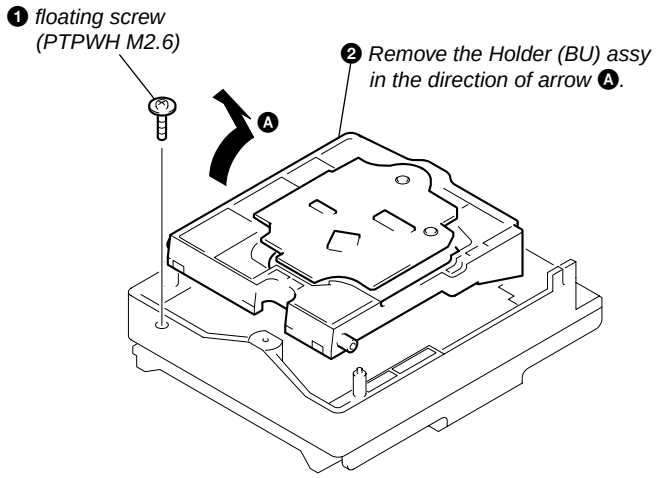
3-4. MAIN BOARD



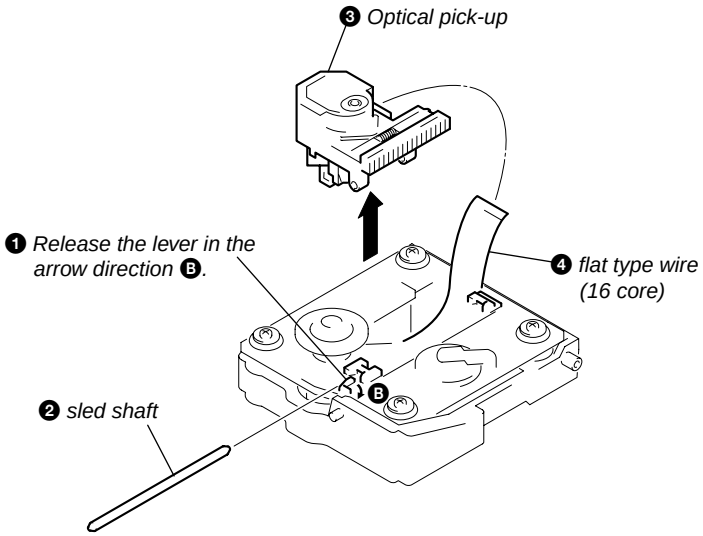
3-5. CAM, GEAR


❹ belt (CDM55)
❺ bushing
❻ pulley (LDG)
❽ gear (B)
❾ gear (A)
❼ roller
❿ cam (CDM55)
❷ Push the claw in tne direction of arrow Ⓒ.
Ⓒ
Ⓐ
Ⓑ
❶ Pull out the tray in the arrow direction Ⓐ, and release the lock while pressing this claw in the arrow direction Ⓑ.
❸ Pull out the tray.
Ⓑ Release

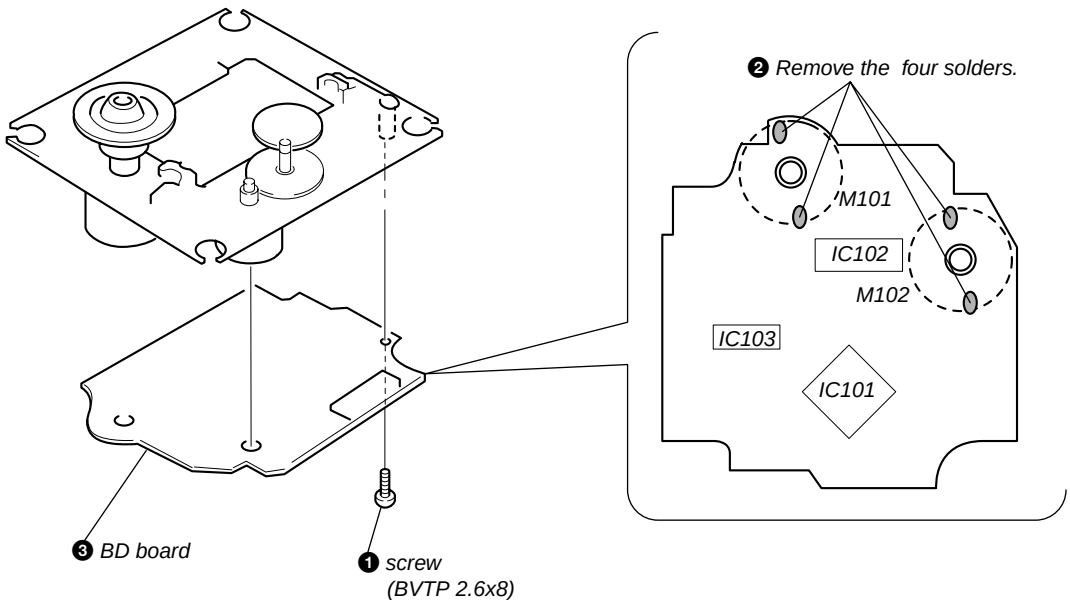
3-6. HOLDER ASSY



3-7. OPTICAL PICK-UP



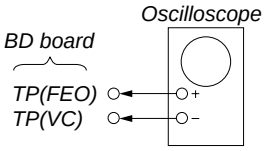
3-8. BD BOARD



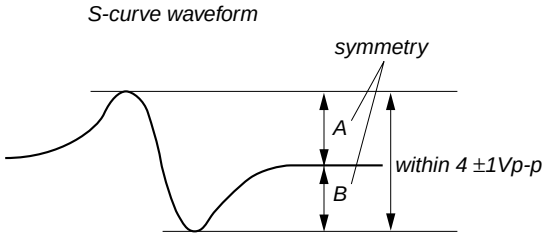
SECTION 4
ELECTRICAL ADJUSTMENT

Note :
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check



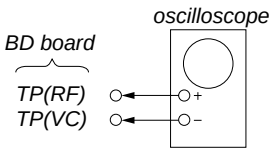
Procedure :
1. Connect oscilloscope to TP (FEO).
2. Connect between TP (FEI) and TP (VC) by lead wire.
3. Connect between TP (AGCCON) and TP (DGND) by lead wire.
4. Press the I/⏻ button (TA).
5. Load a disc (YEDS-18) and actuate the focus search. (In consequence of open and close the disc tray, actuate the focus search)
6. Confirm that the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 4 ±1 Vp-p.



7. After check, remove the lead wire connected in step 2 and 3.

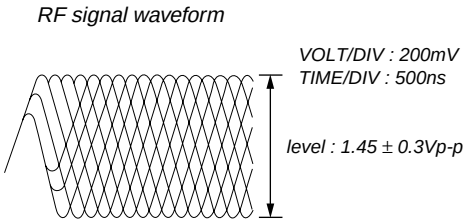
Note :
- Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

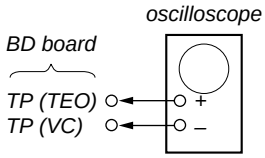


Procedure :
1. Connect oscilloscope to TP (RF).
2. Connect between TP (AGCCON) and TP (DGND) by lead wire.
3. Press the I/⏻ button (TA).
4. Load a disc (YEDS-18) and playback.
5. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.
6. After check, remove the lead wire connected in step 2.

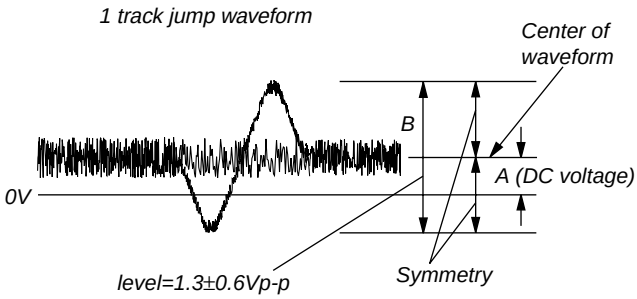
Note: Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.



E-F Balance (1 Track jump) Check



Procedure:
1. Connect oscilloscope to TP (TEO) and TP (VC) board.
2. Press the I/⏻ button (TA).
3. Load a disc (YEDS-18) and playback the number five track.
4. Press the ▷ button. (Becomes the 1track jump mode.)
5. Confirm that the level B and A (DC voltage) on the oscilloscope waveform.

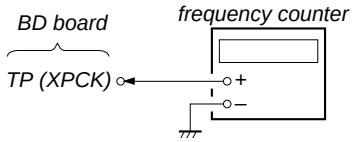


Specification level: $\frac{A}{B}$ x 100=less than ±22%

6. After check, remove the lead wire connected in step 1.

RF PLL Free-run Frequency

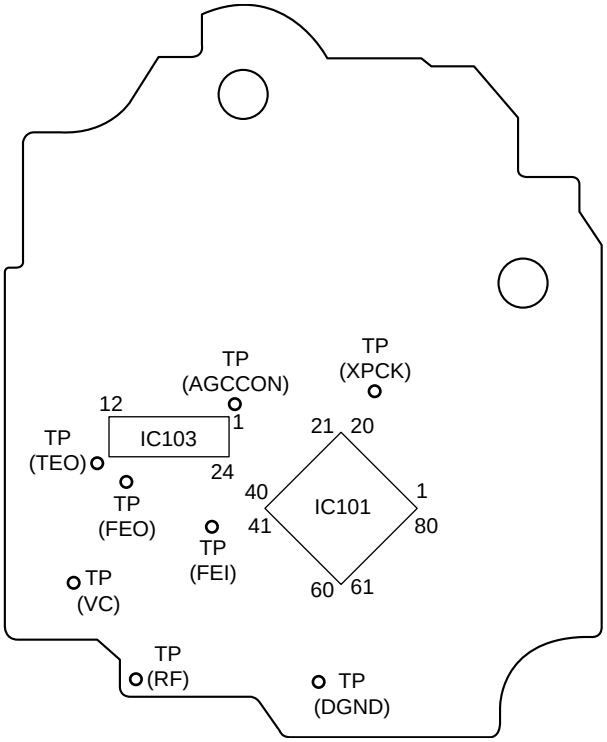
Procedure :
1. Connect frequency counter to test point (XPCK) with lead wire.



2. Press the I/⏻ button (TA).
3. Put the disc (YEDS-18) in to play the number five track. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location:

[BD BOARD] (Conductor Side)



SECTIOIN 5
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B– : B– Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : CD (ANALOG)
  : CD (DIGITAL)
- Abbreviation
  AED : North European model
  HK : Hong Kong model
  MY : Malaysia model
  SP : Singapore model
  KR : Korea model

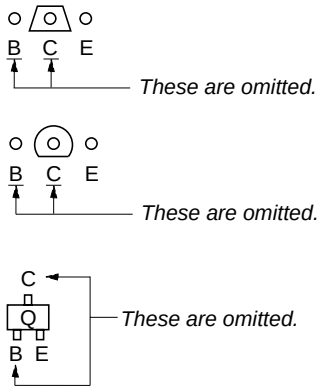
For printed wiring boards.

Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Pattern from the side which enables seeing.

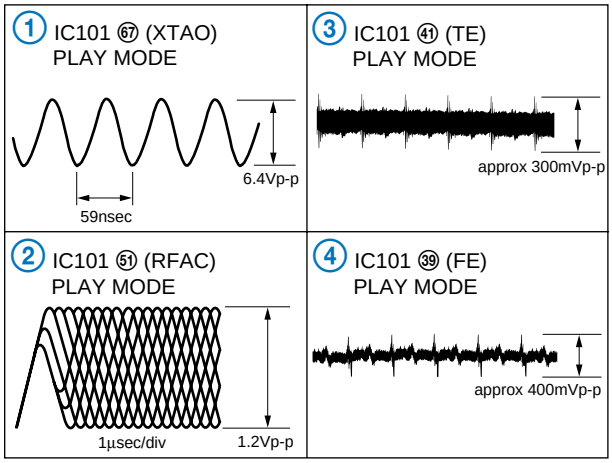
(The other layers' patterns are not indicated.)

- **Indication of transistor**

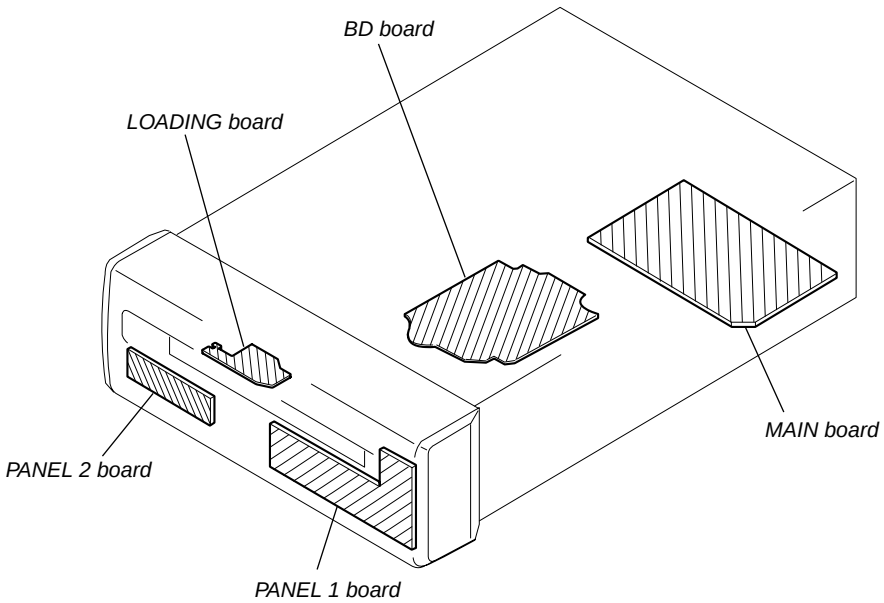


• **WAVEFORMS**

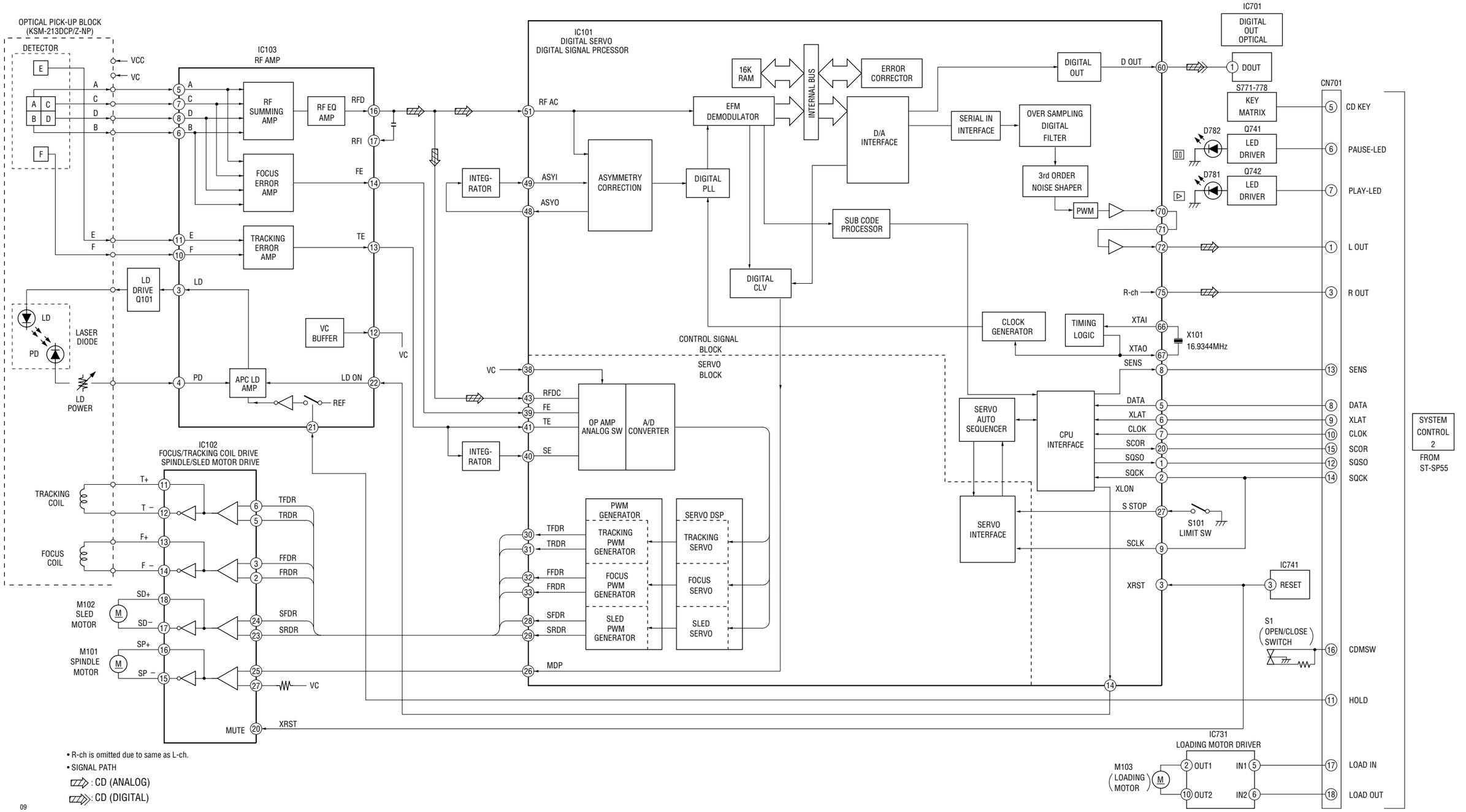
– BD BOARD –



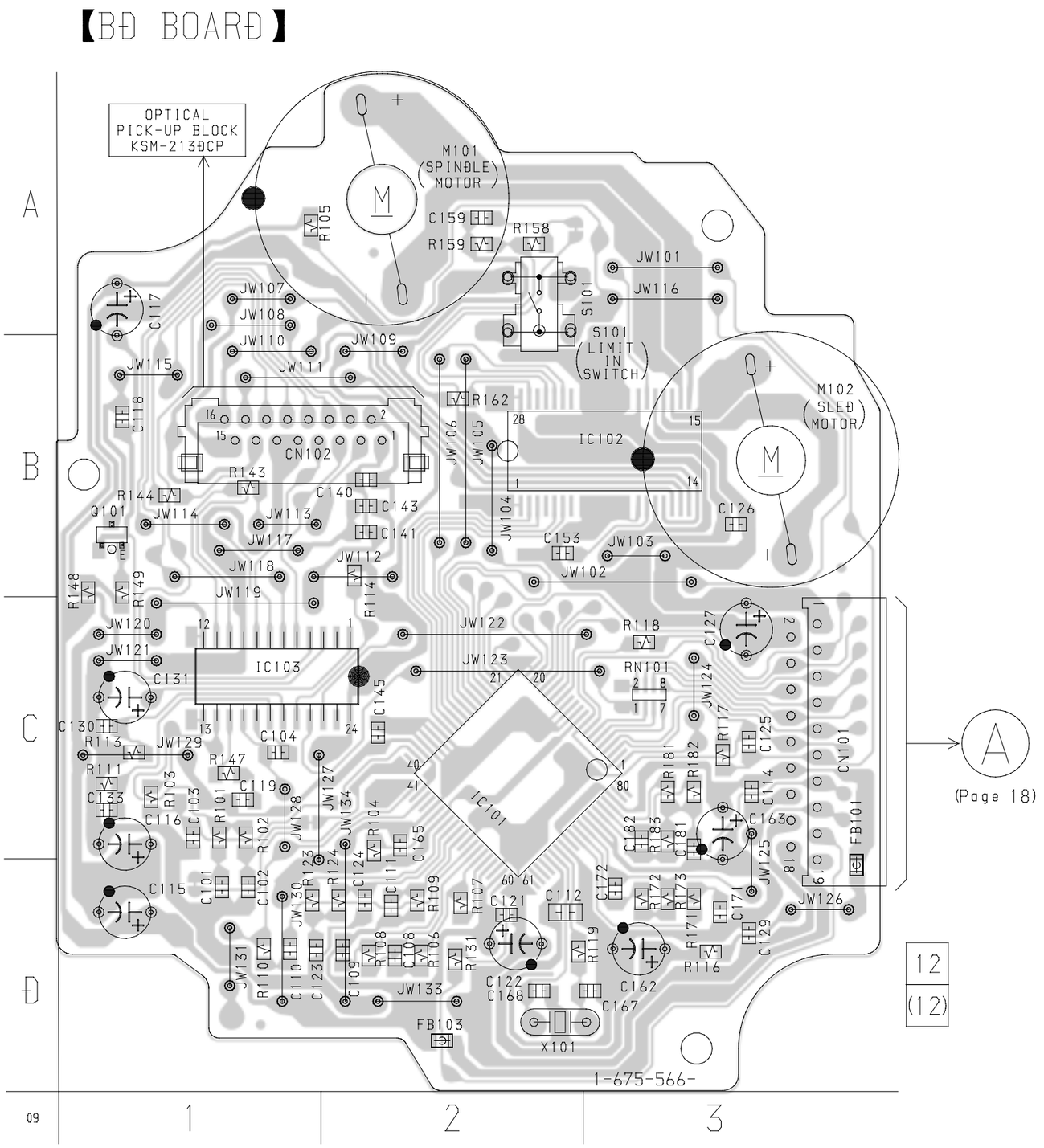
5-1. CIRCUIT BOARDS LOCATION



5-2. BLOCK DIAGRAM

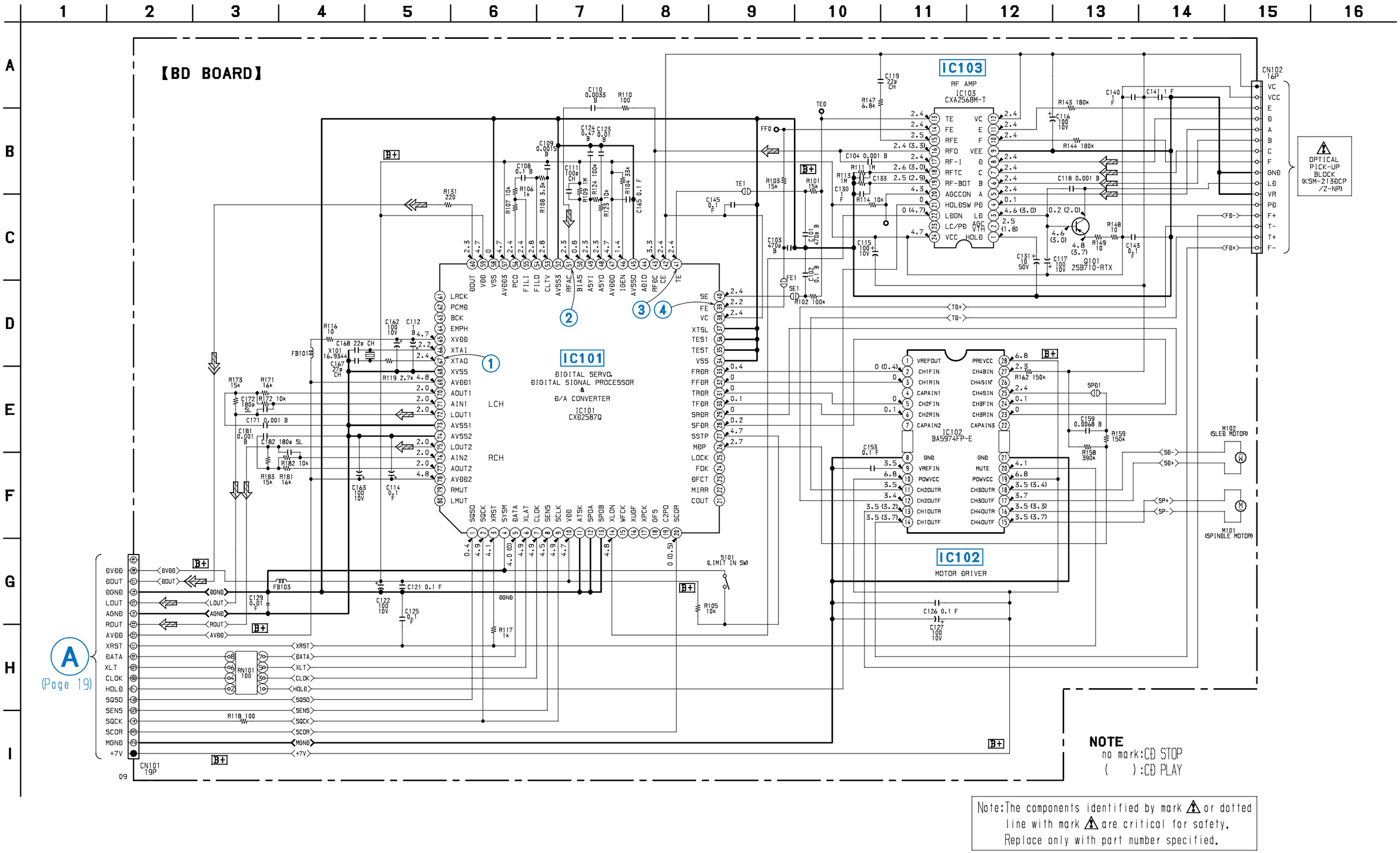


5-3. PRINTED WIRING BOARD – BD SECTION – • See page 14 for Circuit Boards Location.

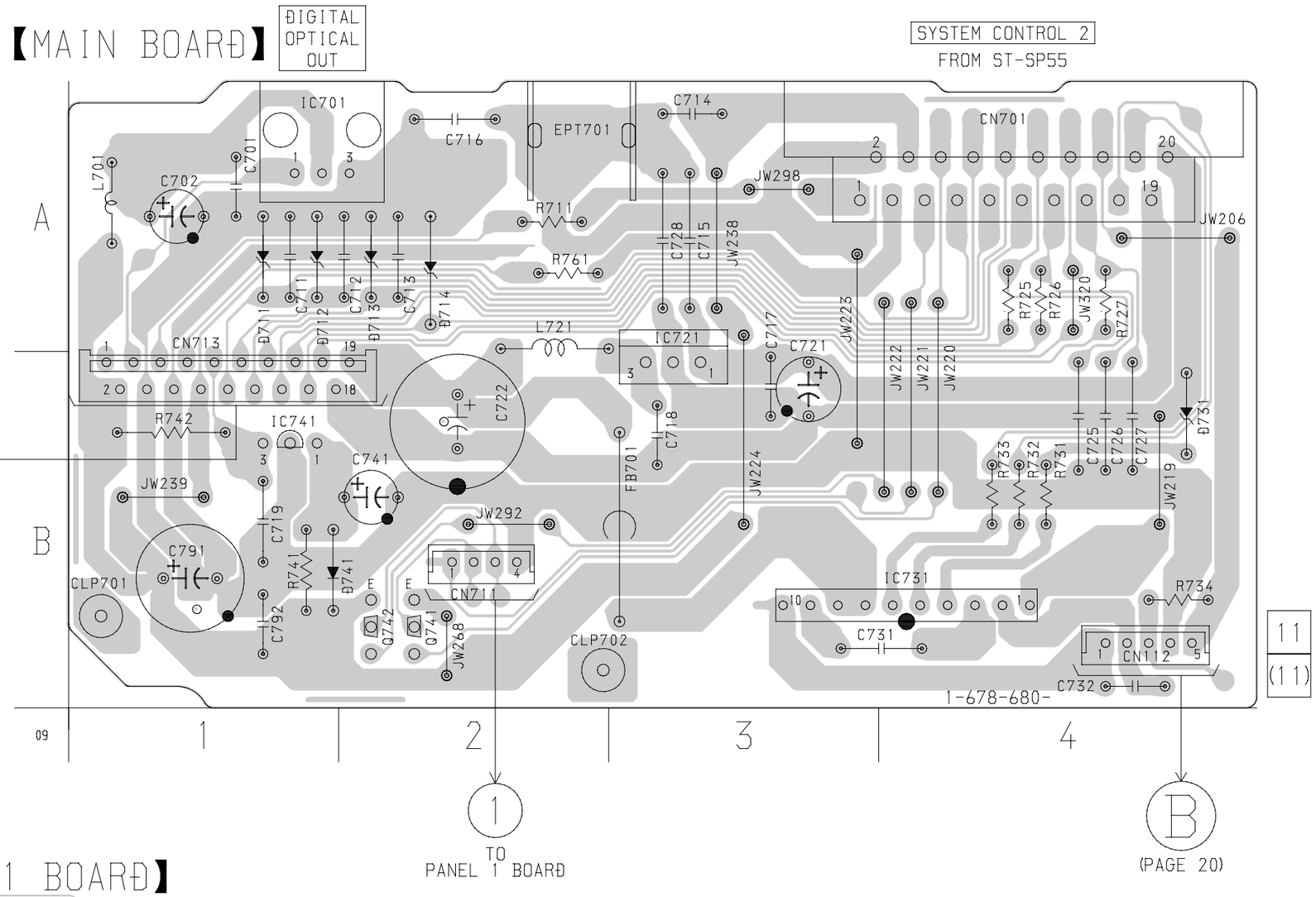


There are a few cases that the part isn't mounted in model is printed on diagram.

5-4. SCHEMATIC DIAGRAM – BD SECTION – • See page 14 for Waveforms. • See page 20 for IC Block Diagrams.



5-5. PRINTED WIRING BOARD – MAIN SECTION – • See page 14 for Circuit Boards Location.

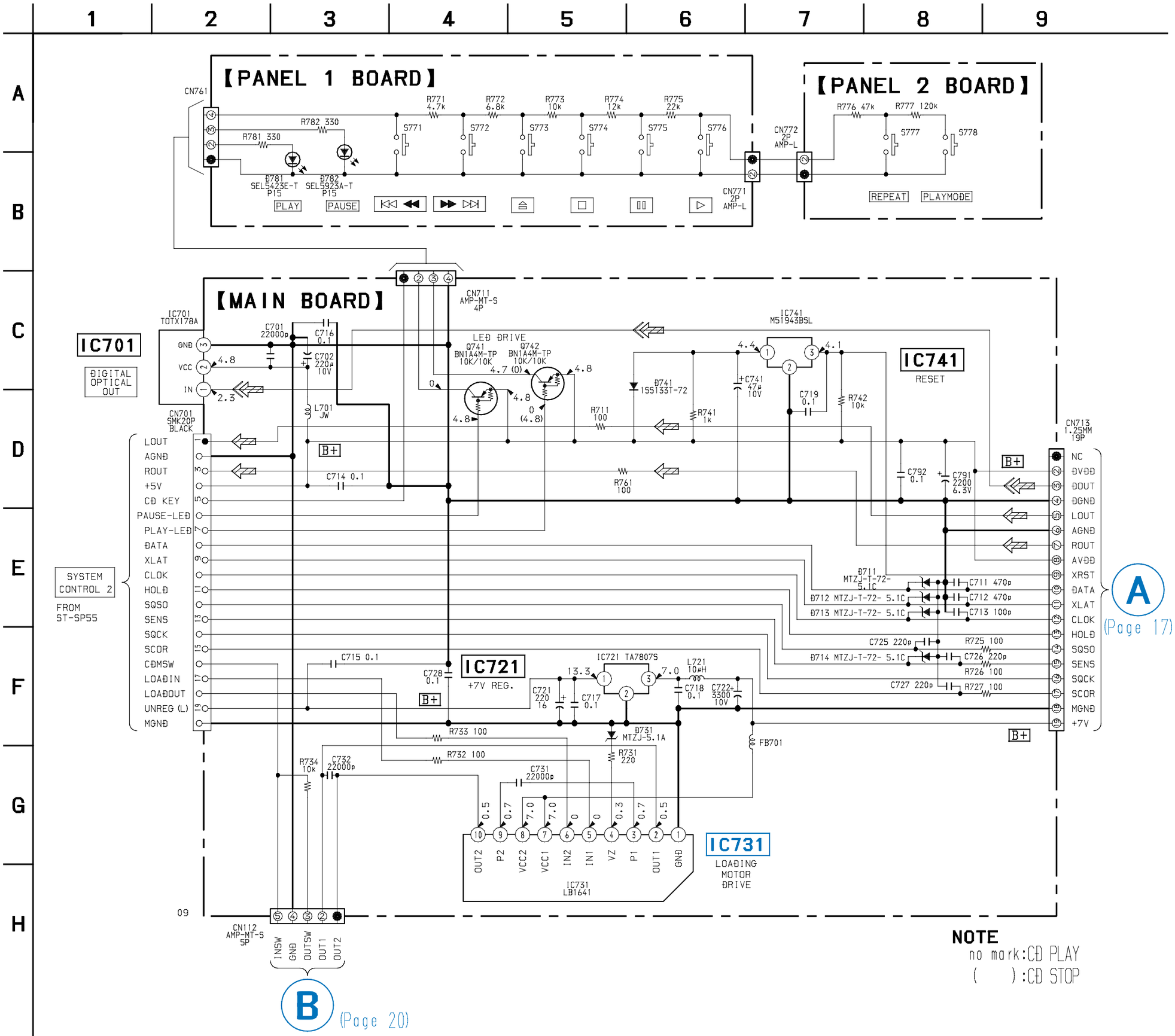


- **Semiconductor Location**

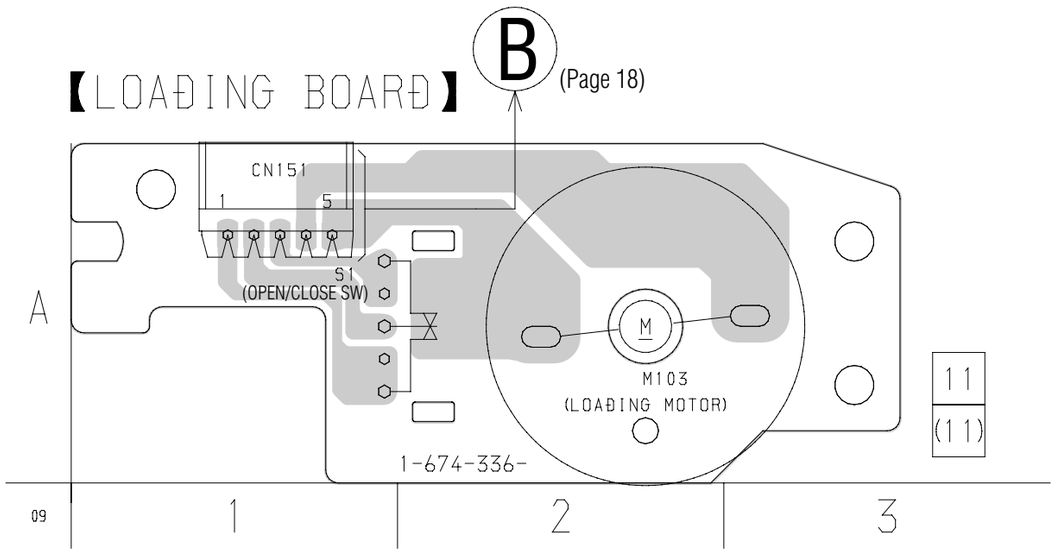
Ref. No.	Location
D711	A-1
D712	A-1
D713	A-2
D714	A-2
D731	B-4
D741	B-1
IC701	A-1
IC721	A-3
IC731	B-4
IC741	B-1
Q741	B-2
Q742	B-2

There are a few cases that the part isn't mounted in model is printed on diagram.

5-6. SCHEMATIC DIAGRAM – MAIN SECTION – • See page 21 for IC Block Diagrams.

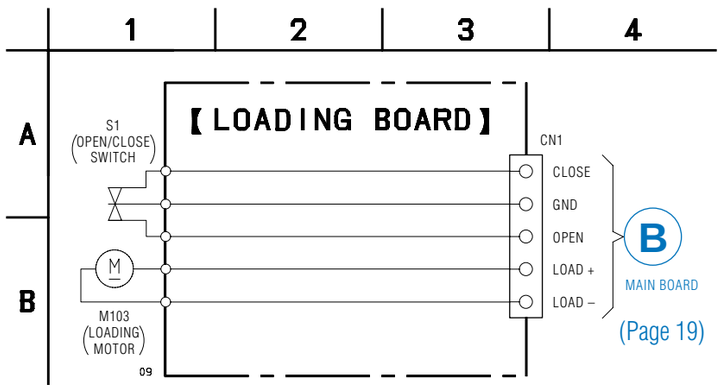


5-7. PRINTED WIRING BOARD – LOADING SECTION –



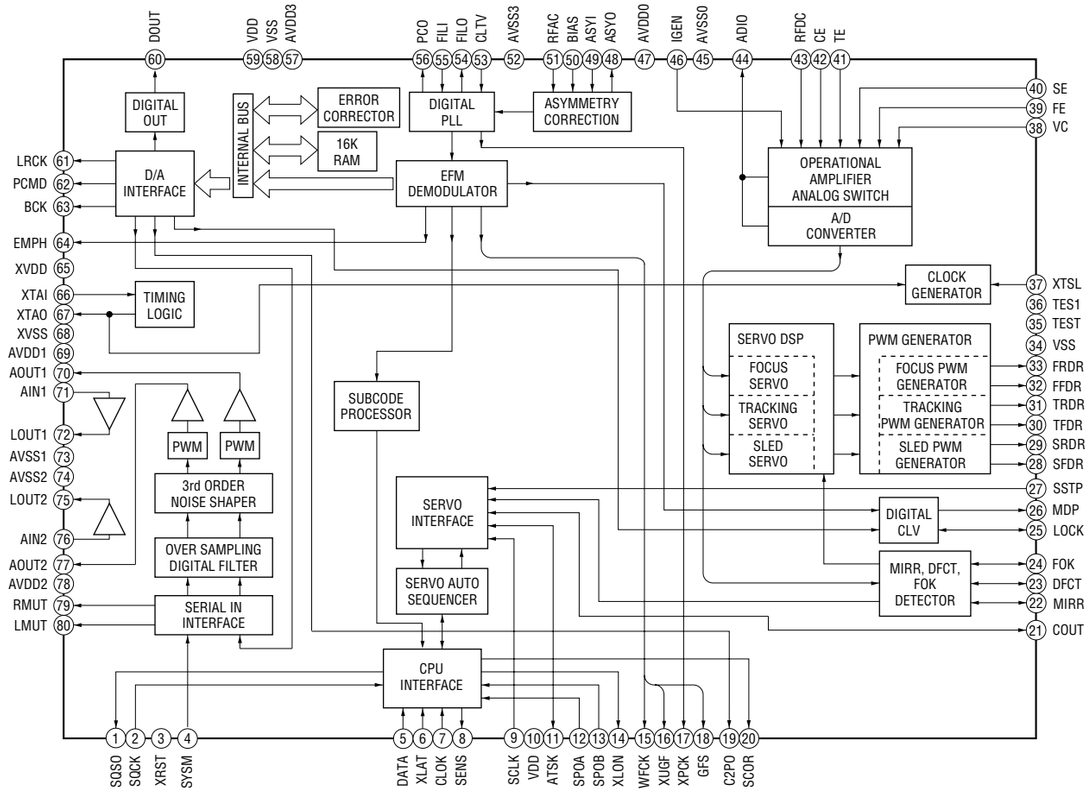
There are a few cases that the part isn't mounted in model is printed on diagram.

5-8. SCHEMATIC DIAGRAM – LOADING SECTION –

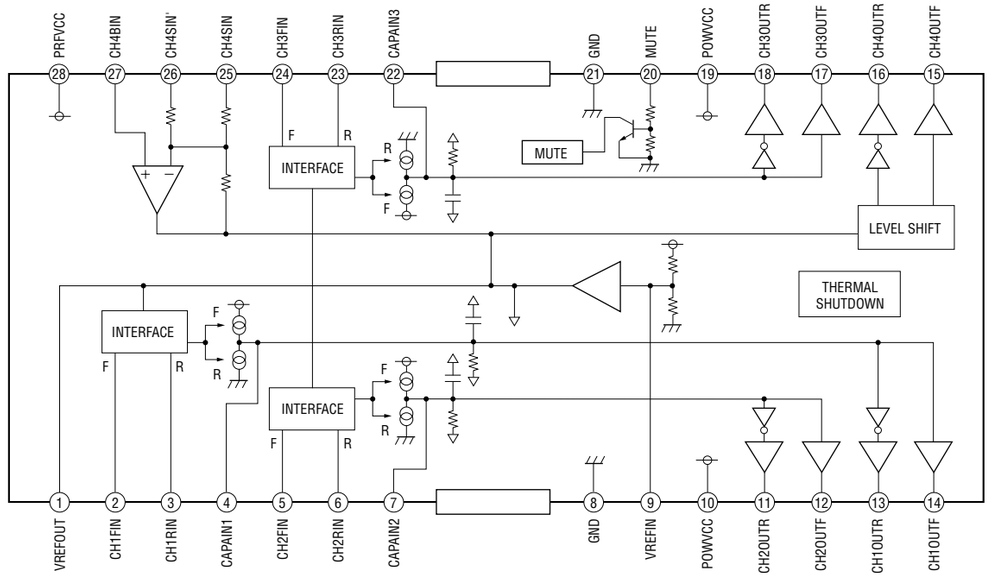


5-9. IC BLOCK DIAGRAM

IC101 CXD2587Q (BD BOARD)

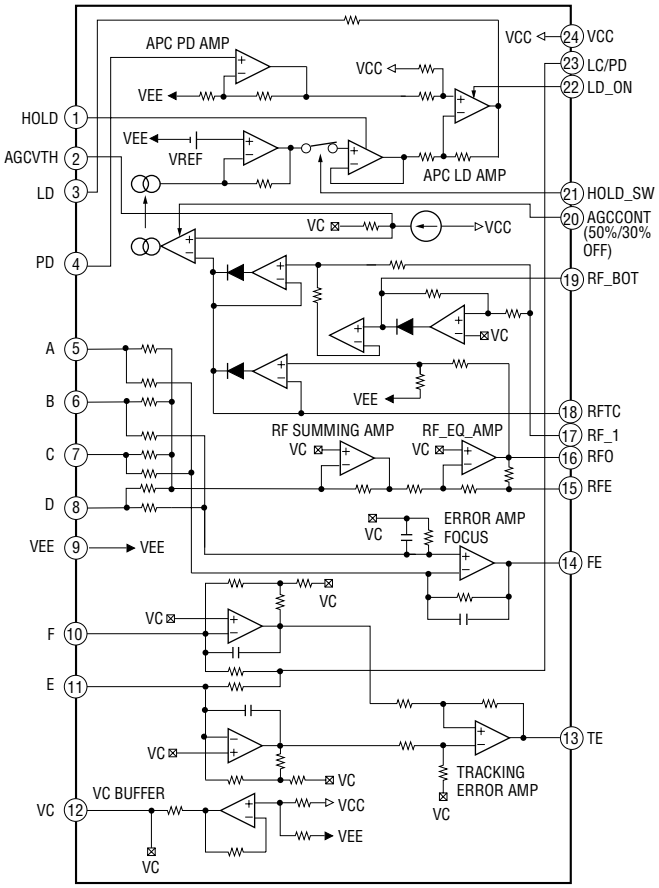


IC102 BA5974FP-E2 (BD BOARD)

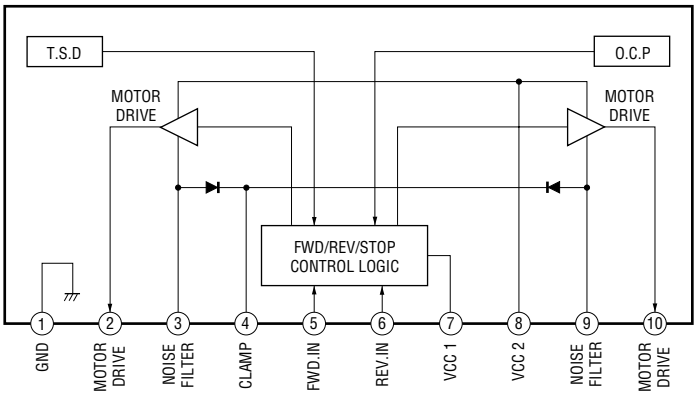


20

IC103 CXA2568M-T6 (BD BOARD)



IC731 LB1641 (MAIN BOARD)



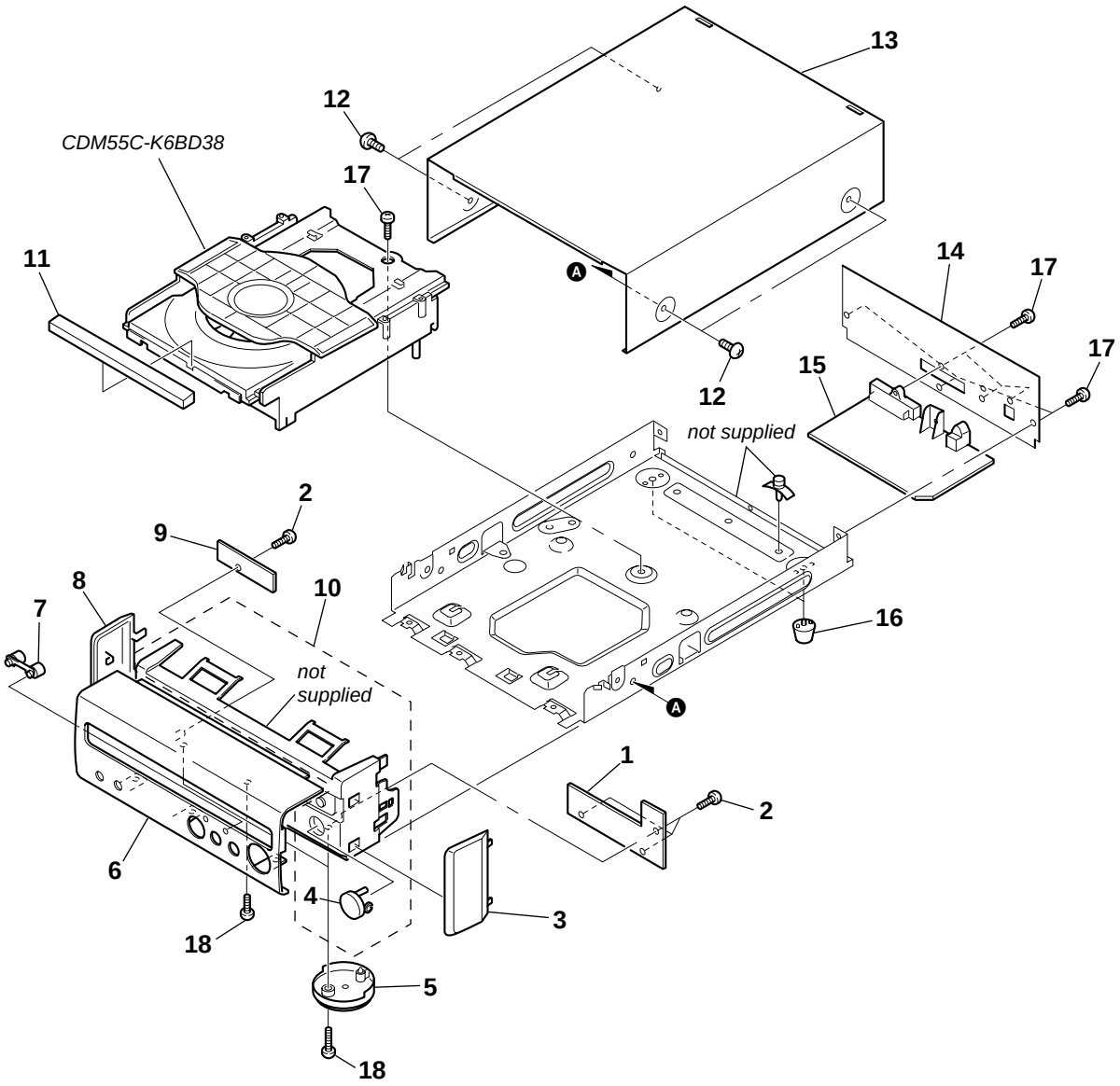
SECTION 6
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  AED : North European model
  HK : Hong Kong model
  MY : Malaysia model
  SP : Singapore model
  KR : Korea model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

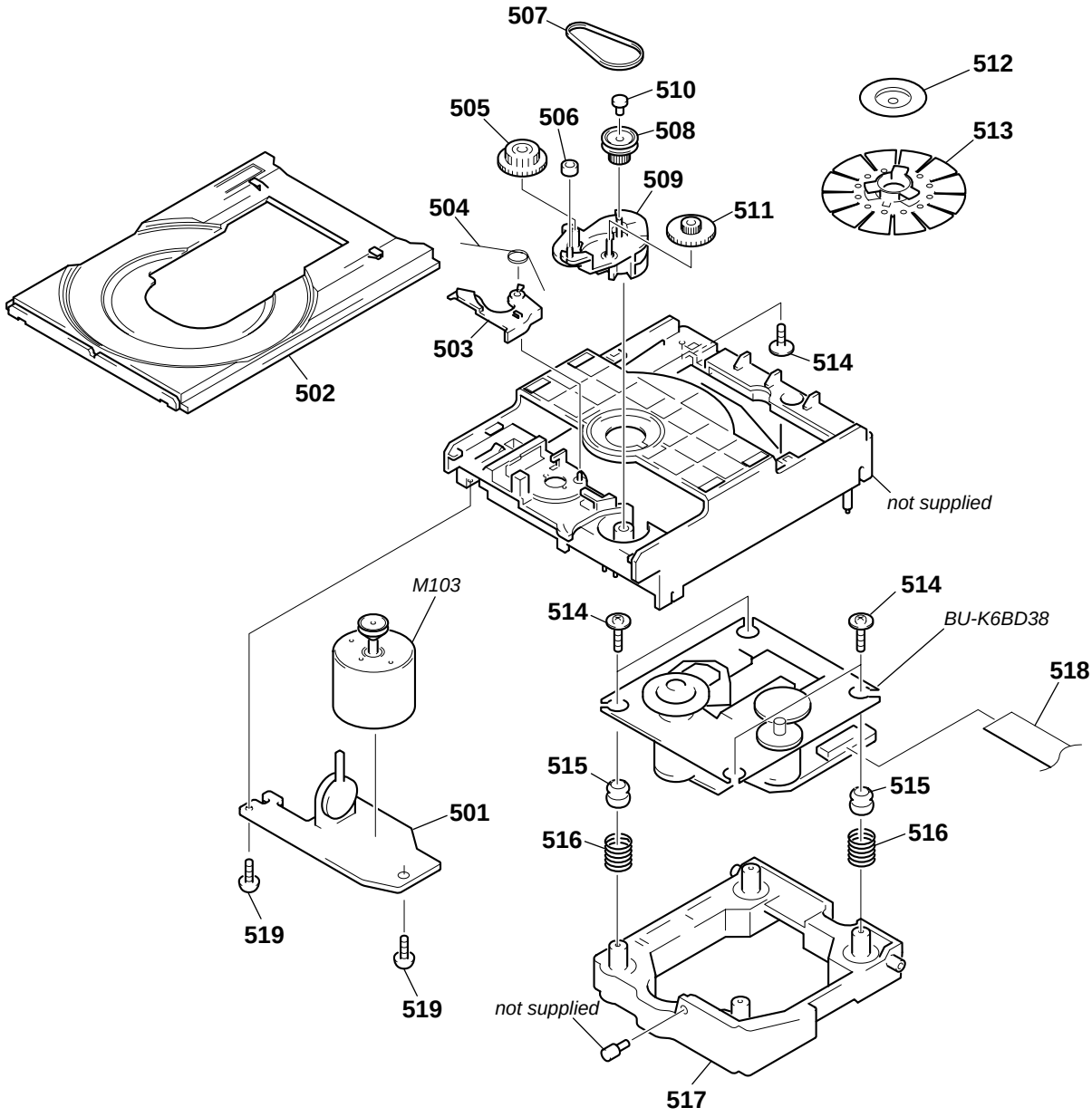
6-1. CASE AND FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks
1	1-678-681-11	PANEL1 BOARD	
2	4-951-620-01	SCREW (2.6X8), +BVTP	
3	4-229-683-01	PLATE (R), SIDE	
4	4-229-678-01	BUTTON (U/D)	
5	X-4953-027-1	FOOT ASSY	
6	4-229-667-01	PANEL (CD), FRONT	
7	4-229-652-11	INDICATOR (PLAY)	
8	4-229-684-01	PLATE (L), SIDE	
9	1-678-682-11	PANEL2 BOARD	
10	X-4953-024-1	PANEL ASSY (CD), SUB	

Ref. No.	Part No.	Description	Remarks
11	4-229-668-01	PANEL, LOADING	
12	3-363-099-51	SCREW (CASE 3 TP2)	
13	4-229-687-11	CASE	
14	4-229-674-01	PANEL, BACK (AEP,UK,AED)	
14	4-229-674-21	PANEL, BACK (MY,SP,HK)	
14	4-229-674-31	PANEL, BACK (KR)	
15	1-678-680-11	MAIN BOARD	
16	4-965-822-01	FOOT	
17	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
18	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	

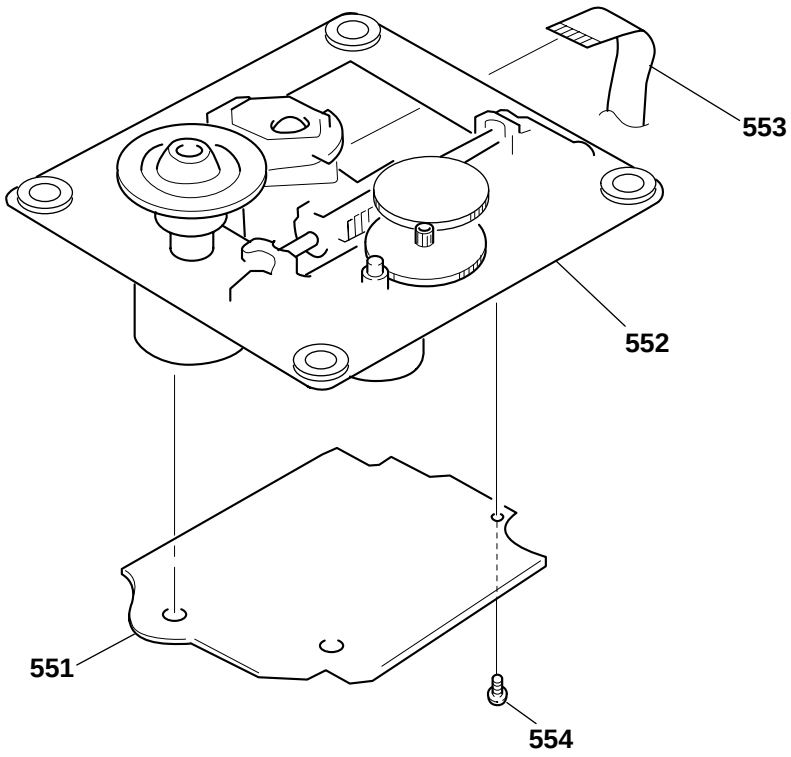
6-2. CD MECHANISM DECK SECTION (CDM55C-K6BD38)



Ref. No.	Part No.	Description	Remarks
501	1-674-336-21	LOADING BOARD	
502	4-224-894-11	TRAY (CDM55D)	
503	4-220-229-01	LEVER (SW)	
504	4-220-239-11	SPRING, TORSION	
505	4-220-237-01	GEAR (A)	
506	4-221-815-01	ROLLER	
507	4-221-816-11	BELT (CDM55)	
508	4-220-233-01	CAM (CDM55)	
509	4-220-234-01	PULLEY (LDG)	
510	4-227-598-01	SPACER (55)	

Ref. No.	Part No.	Description	Remarks
511	4-220-238-01	GEAR (B)	
512	1-452-925-21	MAGNET ASSY	
513	X-4953-195-1	PULLEY (AT) ASSY	
514	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
515	4-227-679-01	INSULATOR (213)	
516	4-229-806-01	SPRING (213), COMPRESSION	
517	X-4953-169-1	HOLDER (BU) ASSY	
518	1-590-578-11	WIRE (FLAT TYPE) (19 CORE)	
519	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
M103	A-4672-984-A	MOTOR (LD) ASSY (LOADING)	

6-3. BASE UNIT SECTION (BU-K6BD38)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
551	A-4724-934-A	BD BOARD, COMPLETE	
⚠552	8-820-116-01	OPTICAL PICK-UP KSM-213DCP/Z-NP	
553	1-792-024-11	WIRE (FLAT TYPE) (16 CORE)	
554	4-951-620-01	SCREW (2.6X8), +BVTP	

SECTION 7
ELECTRICAL PARTS LIST

BD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... , uPB... , µPB... , uPC... , µPC... , uPD..., µPD...

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks
	A-4724-934-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C112	1-107-682-11	CERAMIC CHIP	1uF	10.00%	16V
C114	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C115	1-104-665-11	ELECT	100uF	20.00%	10V
C116	1-104-665-11	ELECT	100uF	20.00%	10V
C117	1-104-665-11	ELECT	100uF	20.00%	10V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C121	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C122	1-104-665-11	ELECT	100uF	20.00%	10V
C123	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C124	1-107-823-11	CERAMIC CHIP	0.47uF	10.00%	16V
C125	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C126	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C127	1-104-665-11	ELECT	100uF	20.00%	10V
C129	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C130	1-164-346-11	CERAMIC CHIP	1uF		16V
C131	1-126-964-11	ELECT	10uF	20.00%	50V
C133	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-164-346-11	CERAMIC CHIP	1uF		16V
C141	1-164-346-11	CERAMIC CHIP	1uF		16V
C143	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C145	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C153	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C162	1-104-665-11	ELECT	100uF	20.00%	10V
C163	1-104-665-11	ELECT	100uF	20.00%	10V
C165	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C167	1-163-237-11	CERAMIC CHIP	27PF	5.00%	50V
C168	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C171	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C172	1-163-123-00	CERAMIC CHIP	180PF	5%	50V

Ref. No.	Part No.	Description			Remarks
C181	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C182	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
		< CONNECTOR >			
CN101	1-784-741-11	CONNECTOR, FFC 19P			
CN102	1-793-907-11	CONNECTOR, FFC/FPC 16P			
		< FERRITE BEAD >			
FB101	1-500-445-21	FERRITE	0UH		
FB103	1-500-445-21	FERRITE	0UH		
		< IC >			
IC101	8-752-386-85	IC CXD2587Q			
IC102	8-759-549-28	IC BA5974FP-E2			
IC103	8-752-085-51	IC CXA2568M-T6			
		< TRANSISTOR >			
Q101	8-729-049-31	TRANSISTOR 2SB710-RTX			
		< RESISTOR >			
R101	1-216-077-91	RES-CHIP	15K	5%	1/10W
R102	1-216-097-11	RES-CHIP	100K	5%	1/10W
R103	1-216-077-91	RES-CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-073-00	METAL CHIP	10K	5%	1/10W
R106	1-216-049-11	RES-CHIP	1K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R109	1-216-121-11	RES-CHIP	1M	5%	1/10W
R110	1-216-025-11	RES-CHIP	100	5%	1/10W
R111	1-216-121-11	RES-CHIP	1M	5%	1/10W
R113	1-216-121-11	RES-CHIP	1M	5%	1/10W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-001-00	METAL CHIP	10	5%	1/10W
R117	1-216-049-11	RES-CHIP	1K	5%	1/10W
R118	1-216-025-11	RES-CHIP	100	5%	1/10W
R119	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-11	RES-CHIP	100K	5%	1/10W
R131	1-216-033-00	METAL CHIP	220	5%	1/10W
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W

BD LOADING MAIN PANEL 1

Ref. No.	Part No.	Description			Remarks
R147	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-001-00	METAL CHIP	10	5%	1/10W
R158	1-216-111-00	METAL CHIP	390K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W
R171	1-216-078-00	RES-CHIP	16K	5%	1/10W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-077-91	RES-CHIP	15K	5%	1/10W
R181	1-216-078-00	RES-CHIP	16K	5%	1/10W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W
R183	1-216-077-91	RES-CHIP	15K	5%	1/10W
		< RESISTOR ARRAY >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
		< SWITCH >			
S101	1-771-853-11	SWITCH, DETECTION (LIMIT IN)			
		< VIBRATOR >			
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)			
**********					
	1-674-336-21	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN1	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S1	1-771-799-11	SWITCH, LEVER (SLIDE) (OPEN/CLOSE)			
**********					
	1-678-680-11	MAIN BOARD			
		*********			
		< CAPACITOR >			
C701	1-161-494-00	CERAMIC	0.022uF		25V
C702	1-126-934-11	ELECT	220uF	20.00%	10V
C711	1-162-290-31	CERAMIC	470PF	10%	50V
C712	1-162-290-31	CERAMIC	470PF	10%	50V
C713	1-162-282-31	CERAMIC	100PF	10%	50V
C714	1-164-159-11	CERAMIC	0.1uF		50V
C715	1-164-159-11	CERAMIC	0.1uF		50V
C716	1-164-159-11	CERAMIC	0.1uF		50V
C717	1-164-159-11	CERAMIC	0.1uF		50V
C718	1-164-159-11	CERAMIC	0.1uF		50V
C719	1-164-159-11	CERAMIC	0.1uF		50V
C721	1-127-719-91	ELECT MELF	220uF	20%	16V
C722	1-128-837-51	ELECT	3300uF	20%	10V
C725	1-162-286-31	CERAMIC	220PF	10%	50V
C726	1-162-286-31	CERAMIC	220PF	10%	50V
C727	1-162-286-31	CERAMIC	220PF	10%	50V
C728	1-164-159-11	CERAMIC	0.1uF		50V
C731	1-161-494-00	CERAMIC	0.022uF		25V
C732	1-161-494-00	CERAMIC	0.022uF		25V
C741	1-104-664-11	ELECT	47uF	20.00%	10V
C791	1-104-656-11	ELECT	2200uF	20.00%	6.3V
C792	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description				
		< CONNECTOR >				
* CN112	1-568-954-11	PIN, CONNECTOR 5P				
CN701	1-794-498-11	SOCKET, CONNECTOR 20P				
CN711	1-506-469-11	PIN, CONNECTOR 4P				
CN713	1-784-780-11	CONNECTOR, FFC 19P				
		< DIODE >				
D711	8-719-921-44	DIODE MTZJ-T-72-5.1C				
D712	8-719-921-44	DIODE MTZJ-T-72-5.1C				
D713	8-719-921-44	DIODE MTZJ-T-72-5.1C				
D714	8-719-921-44	DIODE MTZJ-T-72-5.1C				
D731	8-719-947-16	DIODE MTZJ-T-72-5.1A				
D741	8-719-911-19	DIODE 1SS133T-72				
		< FERRITE BEAD >				
FB701	1-412-473-21	INDUCTOR	0UH			
		< IC >				
IC701	8-749-923-04	IC TOTX178A (DIGITAL OPTICAL OUT)				
IC721	8-759-071-48	IC TA7807S				
IC731	8-759-822-09	IC LB1641				
IC741	8-759-635-63	IC M51943BSL-TP				
		< COIL >				
L721	1-408-117-00	INDUCTOR	10uH			
		< TRANSISTOR >				
Q741	8-729-422-57	TRANSISTOR BN1A4M-TP				
Q742	8-729-422-57	TRANSISTOR BN1A4M-TP				
		< RESISTOR >				
R711	1-247-807-31	CARBON	100	5%	1/4W	
R725	1-247-807-31	CARBON	100	5%	1/4W	
R726	1-247-807-31	CARBON	100	5%	1/4W	
R727	1-247-807-31	CARBON	100	5%	1/4W	
R731	1-249-409-11	CARBON	220	5%	1/4W	F
R732	1-247-807-31	CARBON	100	5%	1/4W	
R733	1-247-807-31	CARBON	100	5%	1/4W	
R734	1-249-429-11	CARBON	10K	5%	1/4W	
R741	1-249-417-11	CARBON	1K	5%	1/4W	F
R742	1-249-429-11	CARBON	10K	5%	1/4W	
R761	1-247-807-31	CARBON	100	5%	1/4W	
**********						
	1-678-681-11	PANEL 1 BOARD				
		**********				
		< DIODE >				
D781	8-719-058-03	DIODE SEL5423E-TP15 (▷)				
D782	8-719-057-97	DIODE SEL5923A-TP15 (▯▯)				
		< RESISTOR >				
R771	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R772	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R773	1-249-429-11	CARBON	10K	5%	1/4W	
R774	1-249-430-11	CARBON	12K	5%	1/4W	
R775	1-249-433-11	CARBON	22K	5%	1/4W	
R781	1-249-411-11	CARBON	330	5%	1/4W	
R782	1-249-411-11	CARBON	330	5%	1/4W	

Ref. No.	Part No.	Description			Remarks
		< SWITCH >			
S771	1-771-410-21	SWITCH, TACTILE (⏮◀◀)			
S772	1-771-410-21	SWITCH, TACTILE (▶▶⏭)			
S773	1-771-410-21	SWITCH, TACTILE (⏏)			
S774	1-771-410-21	SWITCH, TACTILE (□)			
S775	1-771-410-21	SWITCH, TACTILE (▯▯)			
S776	1-771-410-21	SWITCH, TACTILE (▷)			
**********					
	1-678-682-11	PANEL 2 BOARD			
		**********			
		< RESISTOR >			
R776	1-249-437-11	CARBON	47K	5%	1/4W
R777	1-247-881-00	CARBON	120K	5%	1/4W
		< SWITCH >			
S777	1-771-410-21	SWITCH, TACTILE (REPEAT)			
S778	1-771-410-21	SWITCH, TACTILE (PLAY MODE)			
**********					
		MISCELLANEOUS			
		**********			
512	1-452-925-21	MAGNET ASSY			
518	1-590-578-11	WIRE (FLAT TYPE) (19 CORE)			
⚠552	8-820-116-01	OPTICAL PICK-UP KSM-213DCP/Z-NP			
553	1-792-024-11	WIRE (FLAT TYPE) (16 CORE)			
M103	A-4672-984-A	MOTOR (LD) ASSY (LOADING)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

9-929-538-11

Sony Corporation
Audio Entertainment Group

2000I097551-1
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Published by General Engineering Dept.

ST-SP55

SERVICE MANUAL

AEP Model
UK Model
E Model

ST-SP55 is the tuner section
in CMT-SP55MD or CMT-SP55TC.

SPECIFICATIONS

FM stereo, FM/AM superheterodyne tuner

Input

AUX IN (phono jacks): voltage 250 mV, impedance 47 kilohms

Output

AUX OUT (phono jacks): voltage 250 mV, impedance 1 kilohm

FM tuner section

Tuning range	87.5 – 108.0 MHz (50 kHz step)
Aerial	FM lead aerial
Aerial terminals	300 ohms unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range

European model:	531 – 1,602 kHz (with the interval set at 9 kHz)
Other models:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
Aerial	AM loop aerial External aerial terminals
Intermediate frequency	450 kHz

General

Dimensions (w/h/d) incl. projecting parts and controls	Approx. 202 × 75 × 291 mm
Mass	Approx. 1.3 kg

Design and specifications are subject to change without notice.

MICRO Hi-Fi COMPONENT SYSTEM

SONY®

SECTION 3
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B + : B+ Line.
- B − : B– Line.
- ▭ : adjustment for repair.
- no mark : FM
  ✻ : Can not be measured.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ⇨ : CD
  ⇨ : TAPE
  ⇨ : REC (TAPE/MD)
  ⇨ : MD
- Abbreviation
  MY : Malaysia model.
  SP : Singapore model.
  HK : Hong Kong model.
  KR : Korea model.
  AED : North European model.

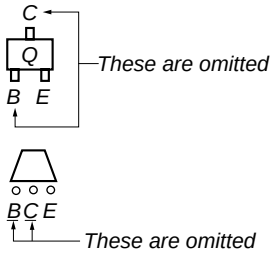
For printed wiring boards.

Note:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

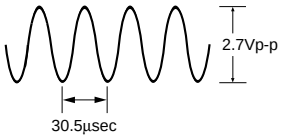
• Indication of transistor



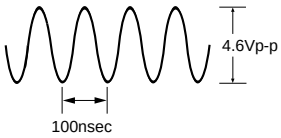
• WAVEFORMS

– MAIN BOARD –

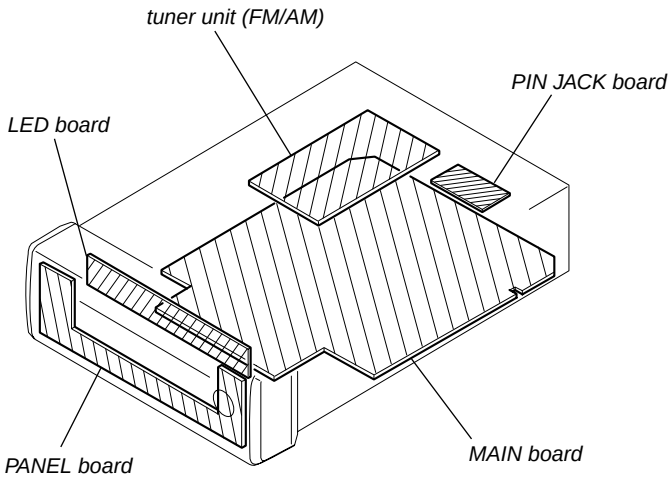
① IC701 ⑪ XCOUT



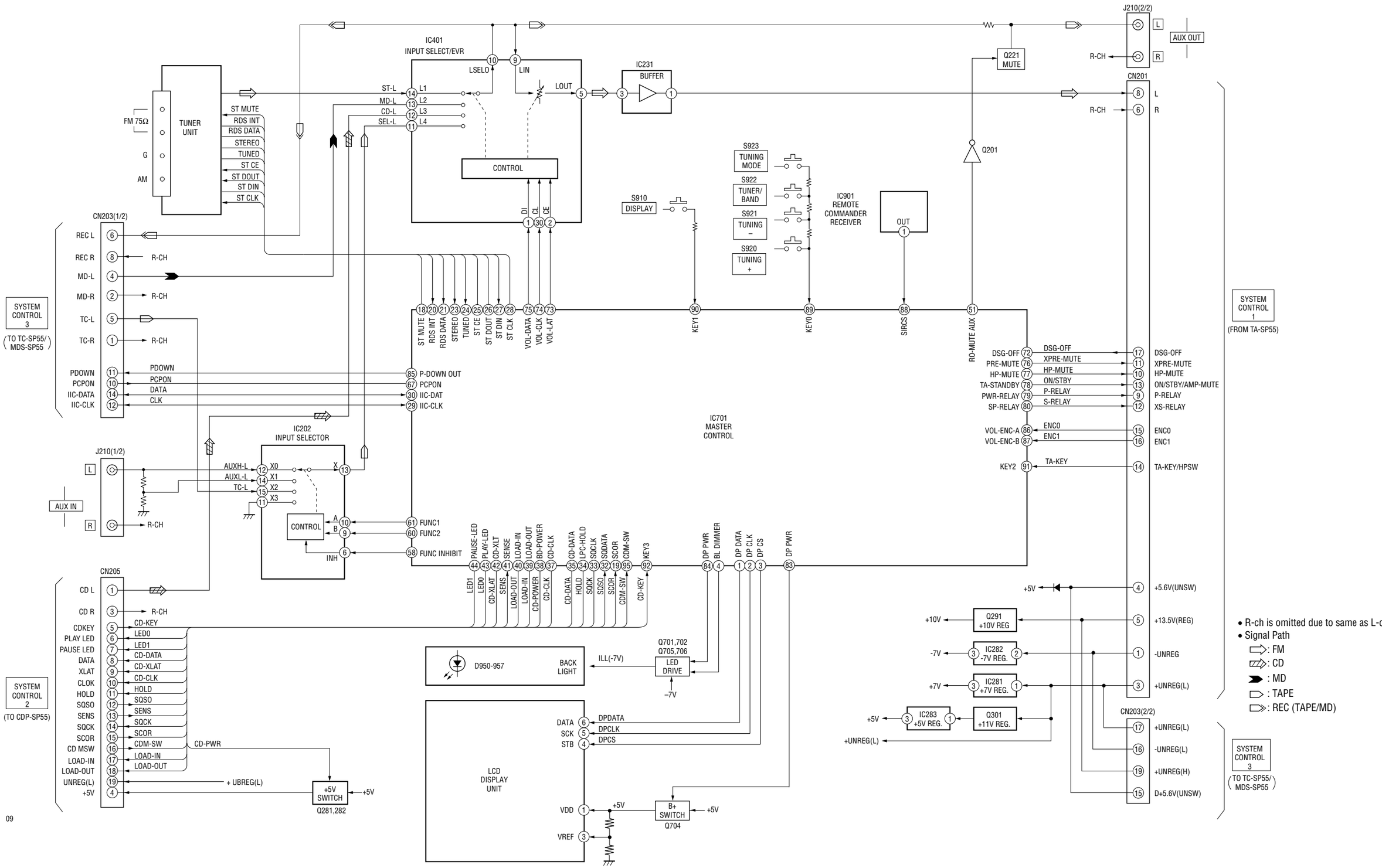
② IC701 ⑬ XOUT



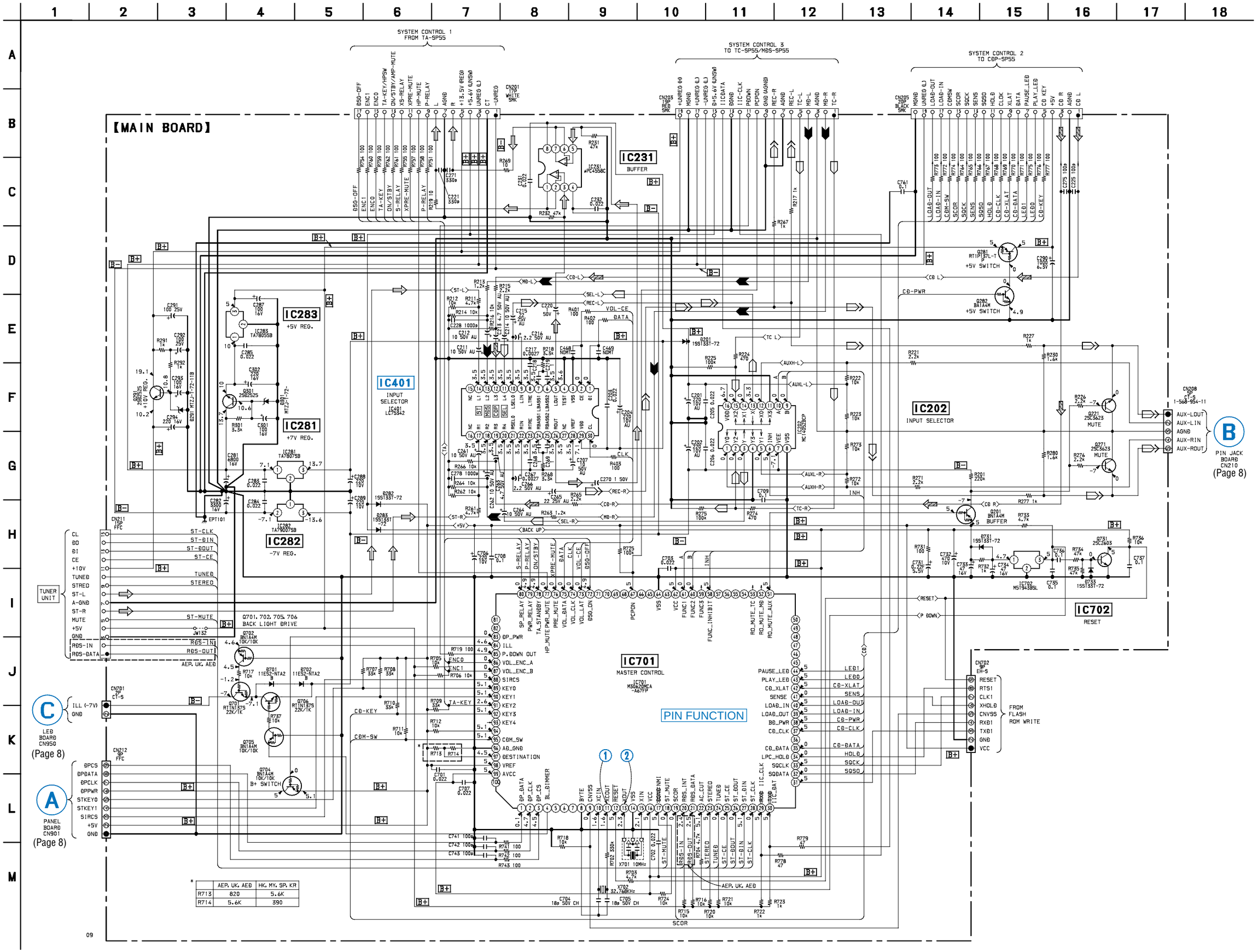
3-1. CIRCUIT BOARDS LOCATION



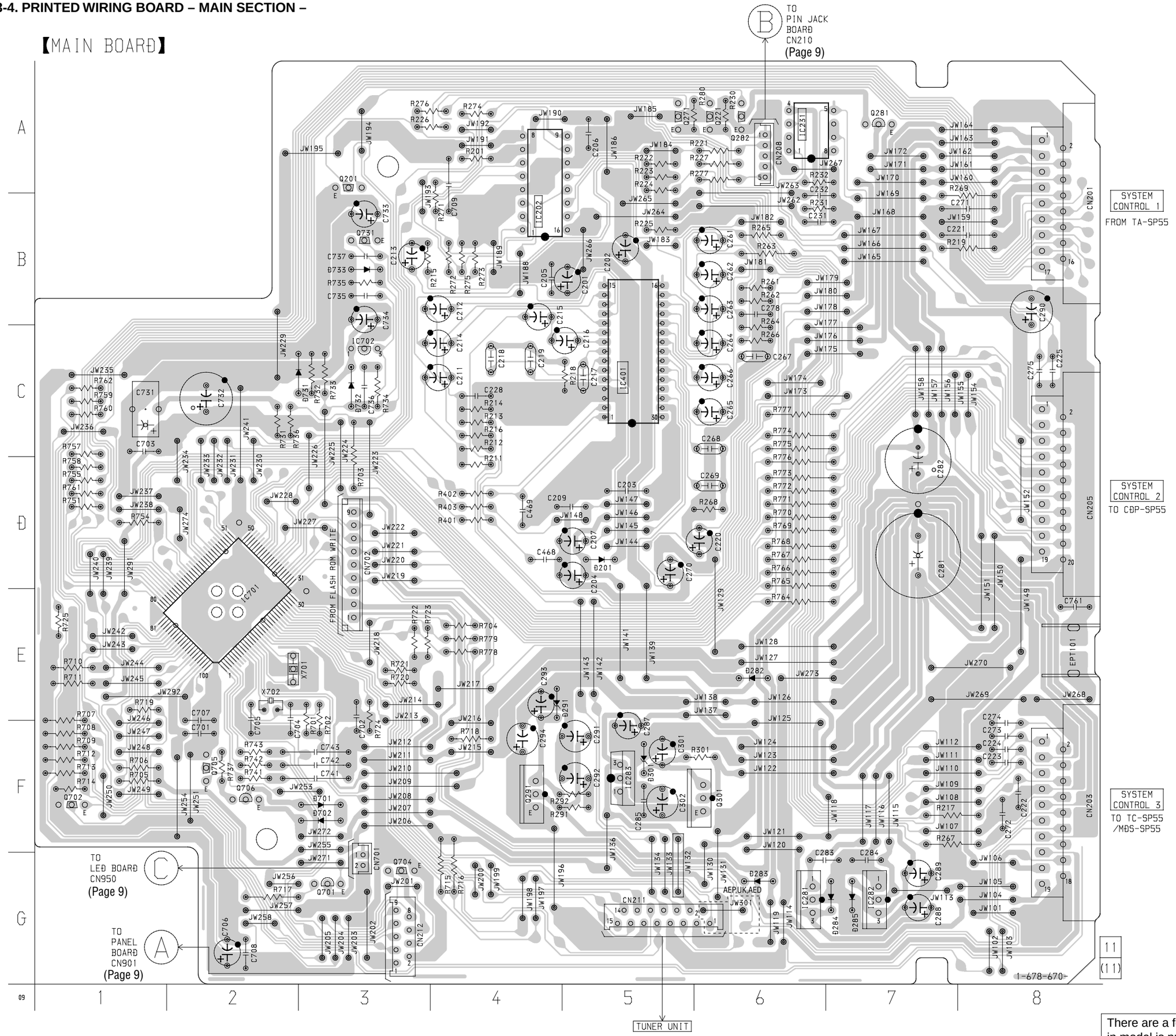
3-2. BLOCK DIAGRAM



3-3. SCHEMATIC DIAGRAM – MAIN SECTION –



3-4. PRINTED WIRING BOARD – MAIN SECTION –

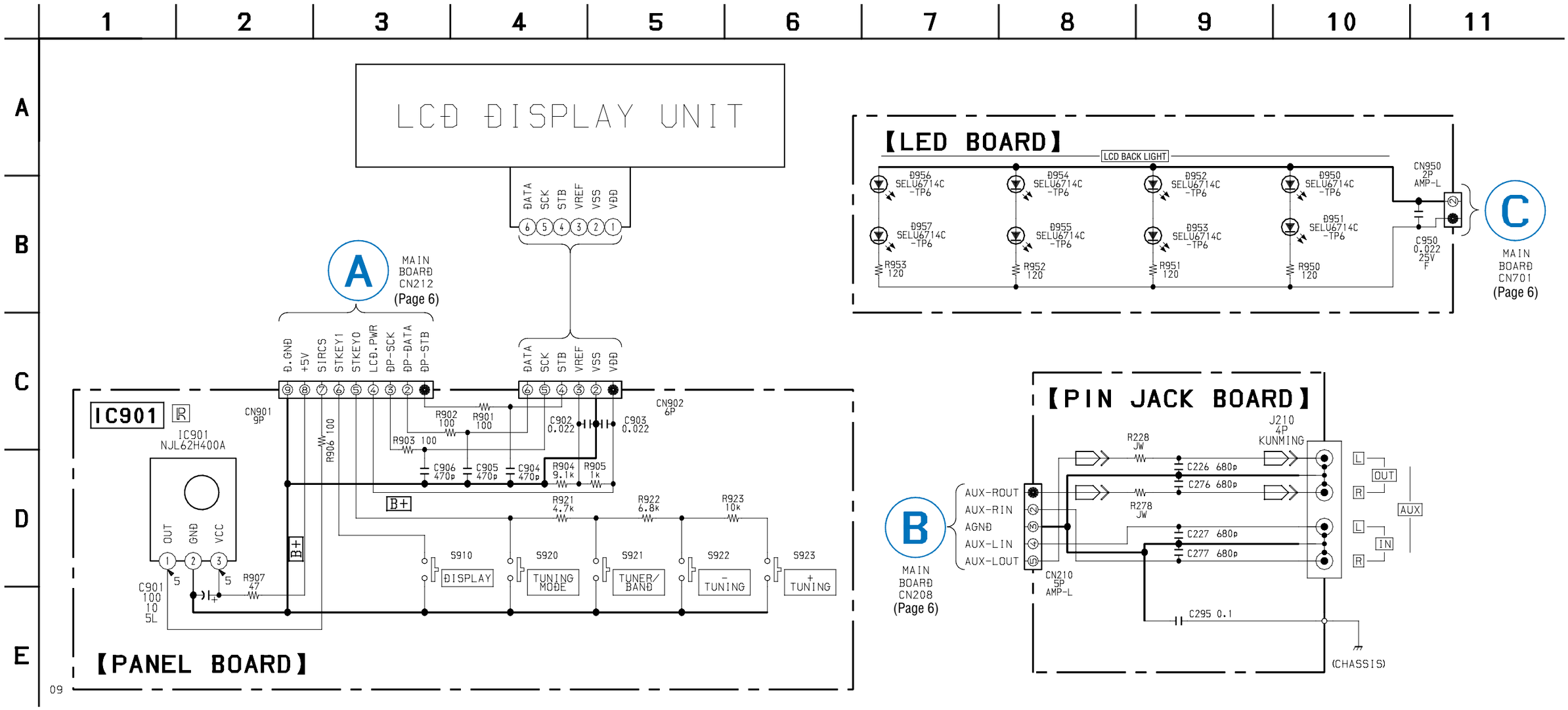


- **Semiconductor Location**

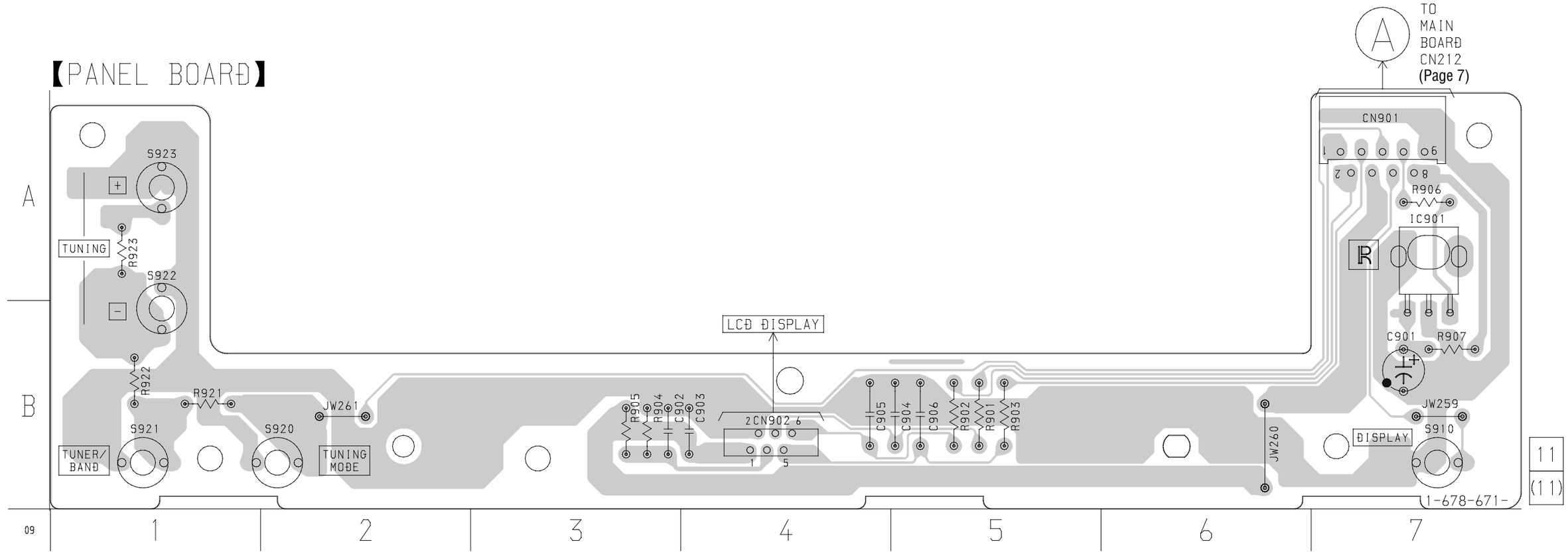
Ref. No.	Location
D201	D-5
D282	E-6
D283	G-6
D291	E-4
D301	F-5
D701	F-3
D702	F-3
D731	C-2
D733	C-3
IC202	B-4
IC231	A-6
IC281	G-6
IC282	G-7
IC283	F-5
IC401	C-5
IC701	E-2
IC702	C-3
Q201	B-3
Q221	A-6
Q271	A-5
Q281	A-7
Q282	A-6
Q291	F-4
Q301	F-5
Q701	G-3
Q702	F-1
Q704	G-3
Q705	F-2
Q706	F-2
Q731	B-3

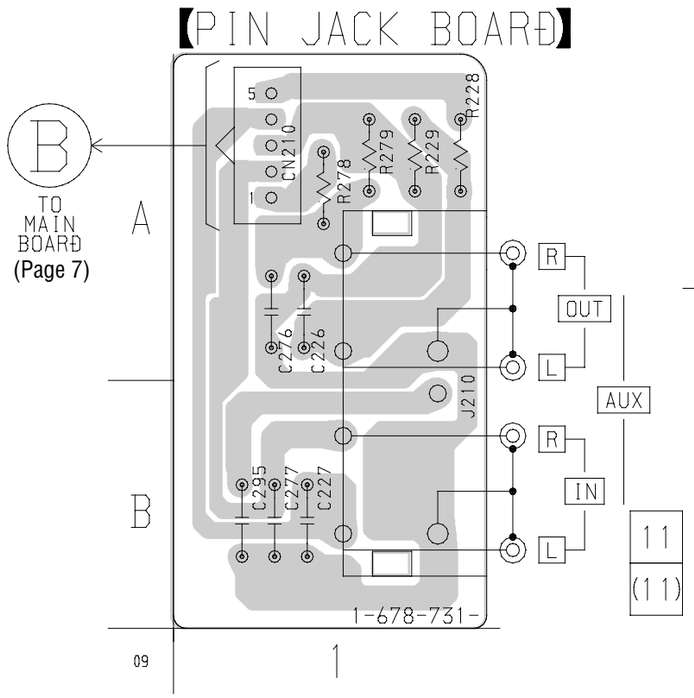
There are a few cases that the part isn't mounted in model is printed on diagram.

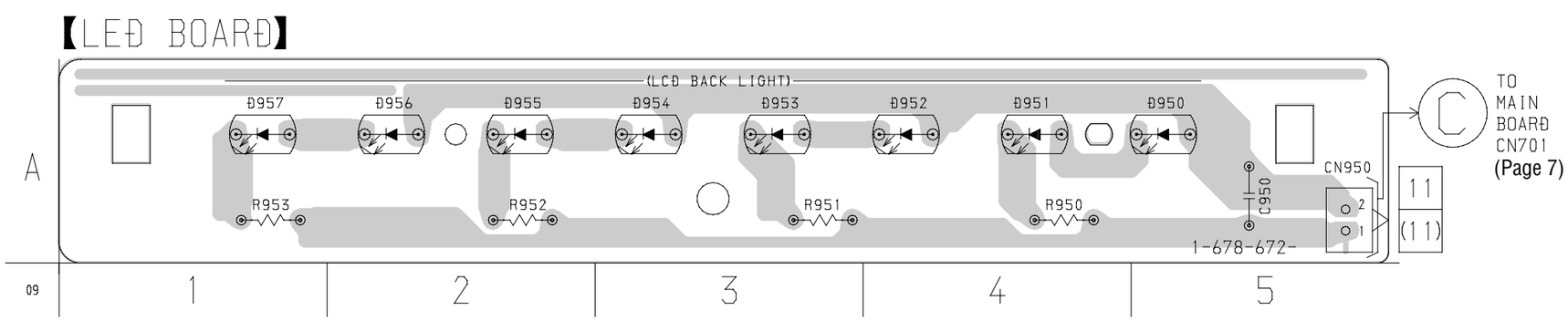
3-5. SCHEMATIC DIAGRAM – PANEL SECTION –



3-6. PRINTED WIRING BOARD – PANEL SECTION –







There are a few cases that the part isn't mounted in model is printed on diagram.

3-7. IC PIN FUNCTIONS

• IC701 M30620MCA-A67FP MASTER CONTROL (MAIN BOARD)

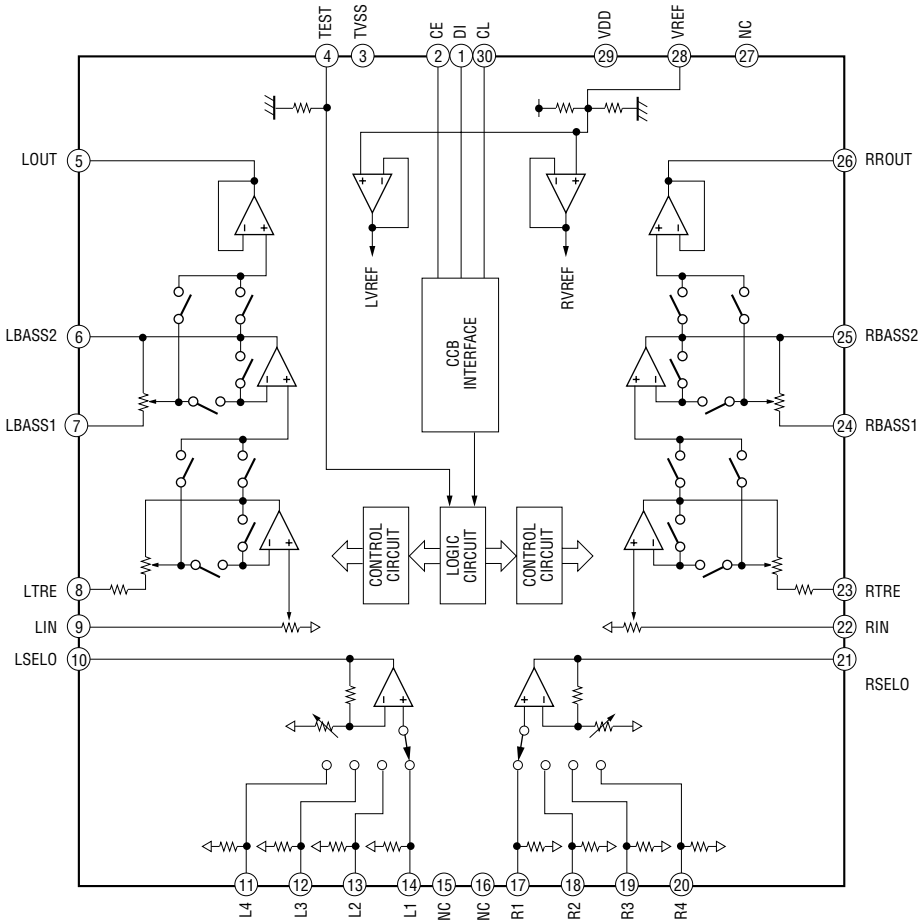
Pin No.	Pin Name		Function
1	DP_DATA	O	LCD data output.
2	DP_CLK	O	LCD clock output.
3	DP_CS	O	LCD chip STB signal output.
4	BL_DIMMER	O	LCD back light bright signal output. (H: BRIGHT, L: DARK)
5	N.C	—	Not used.
6	N.C	—	Not used.
7	N.C	—	Not used.
8	BYTE	—	Connected to ground.
9	GND	—	Connected to ground.
10	XC IN	I	SUB CLOCK input. (32.768kHz)
11	XC OUT	O	SUB CLOCK output. (32.768kHz)
12	$\overline{\text{RESET}}$	I	System master reset input.
13	X-OUT	O	MAIN SYSTEM CLOCK output. (10MHz)
14	VSS	—	Ground
15	X-IN	I	MAIN SYSTEM CLOCK input. (10MHz)
16	VCC	—	Power supply. (EVER +5V)
17	NMI	I	PULL UP (EVER +5V)
18	ST_MUTE	O	ST MUTE singal output.
19	SCOR	I	CD Q-data request signal input.
20	RDS-INT	I	RDS clock signal input.
21	RDS-DATA	I	RDS data signal input.
22	AC OUT	I	TA AC interrupt signal input. (H: AC ON, L: AC OFF)
23	STEREO	I	ST STEREO signal input. (L: STEREO)
24	TUNED	I	ST TUNED signal input. (L: TUNED)
25	ST_CE	O	ST PLL chip enable signal output.
26	ST_DOUT	O	ST PLL data signal output.
27	ST_DIN	I	ST PLL data signal input.
28	ST_CLK	O	ST PLL clock output.
29	IIC_CLK	I/O	IIC SCL output.
30	IIC_DAT	I/O	IIC SDA output.
31	TXD1	—	Not used.
32	SQ DATA	I	CD SUBQ data input.
33	SQ CLK	O	CD SUBQ clock output.
34	LPC_HOLD	O	CD LPC hold output.
35	CD_DATA	O	CD data signal output.
36	N.C	I	Not used.
37	CD_CLK	O	CD clock output.
38	BD_PWR	O	CD_BD power control signal output. (H: ON, L: OFF)
39	LOAD_OUT	O	CD loading motor control signal output.
40	LOAD_IN	O	CD loading motor control signal output.
41	SENSE	I	CD SENSE signal input.
42	CD_XLAT	O	CD XLAT signal output.
43	PLAY_LED	O	CD PLAY LED signal output. (H: OFF, L: ON)
44	PAUSE_LED	O	CD PAUSE LED signal output. (H: OFF, L: ON)
45 to 50	N.C	—	Not used.
51	RO_MUTE_AUX	O	AUX out mute signal output. (H: MUTE OFF, L: MUTE)
52 to 57	N.C	—	Not used.
58	FUNC_INHIBIT	O	TA input select inhibit signal. (H: INHIBIT, L: NOT INHIBIT)
59	N.C	O	Not used.
60	FUNC2	O	TA input select signal output.
61	FUNC1	O	TA input select signal output.
62	VCC	—	Power Supply (EVER +5V)
63	N.C	—	Not used.
64	VSS	—	Ground.
65	N.C	—	Not used.
66	N.C	—	Not used.
67	PCPON	I	Power ON signal from PC.
68 to 71	N.C	—	Not used.
72	DSG_ON	O	TA DSG off control signal output. (H: DSG OFF, L: DSG ON)
73	VOL_LAT	O	ST, “(IC401)” Volume latch.
74	VOL_CLK	O	ST, “(IC401)” Volume clock.
75	VOL_DATA	O	ST, “(IC401)” Volume data signal output.
76	PRE_MUTE	O	TA PRE MUTE signal output. (H: MUTE OFF, L: MUTE ON)
77	XHP_MUTE	O	TA headphone MUTE signal output. (H: MUTE OFF, L: MUTE ON)
78	ON/$\overline{\text{STANDBY}}$	O	TA Power amp MUTE/Standby LED signal output. (H: ON, L: STANDBY)
79	PWR_RELAY	O	TA Standby relay signal output. (H: RELAY OFF, L: RELAY)
80	SP_RELAY	O	TA Speaker relay signal output.
81	N.C	—	Not used.
82	N.C	—	Not used.
83	DP_PWR	O	LCD power ON/OFF signal output. (H: OFF, L: ON)
84	ILL	O	LCD backlight ON/OFF signal output. (H: ON, L: OFF)
85	P_DOWN OUT	O	MD/TC power control signal output. (H: POW ON, L: STANDBY)
86	VOL_ENC_A	I	TA Volume encoder (A) signal input.
87	VOL_ENC_B	I	TA Volume encoder (B) signal input.
88	SIRCS	I	RM SIRCS signal input.
89	KEY0	I	KEY A/D input. (For ST)
90	KEY1	I	KEY A/D input. (For ST)
91	KEY2	I	KEY A/D input. (For TA)
92	KEY3	I	KEY A/D input. (For CDP)
93	NC	—	Not used.
94	NC	I	Not used (pull up).
95	CDM_SW	I	CD Loading switch input.
96	AD_GND	—	Analog ground.
97	DISTINATION	I	Distination signal input.
98	VREF	—	Analog Reference Voltage.
99	AVCC	—	Analog Power Supply.
100	NC	—	Not used.

INH	A	B	SEL	FUNC
L	L	L	0	AUX (H)
L	H	L	1	AUX (L)
L	L	H	2	TAPE
L	H	H	3	GND
H	X	X	NONE	NONE

10

3-8. IC BLOCK DIAGRAM

IC401 LC75342



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SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICE NOTE

This unit cannot be repaired by itself.
When repairing, connect the whole system except for the speaker.

CD Text Display

- This unit displays CD text.
  Text is displayed for the first 50 track only and will not be displayed from the 51st track onwards. Do not suspect a fault in this case.
  In some cases, some special characters will not be displayed and may be replaced by other characters. Do not suspect a fault in this case.

Cold Reset

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and ▶▶▷▷‖ buttons (CDP) together.
2. "COLD RESET" is displayed on the fluorescent indicator tube and reset is executed.

Hot Reset

- This mode reset the preset data kept in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and ‖◁◁◀◀ buttons (CDP) together.
2. Turn off the unit and reset is executed.

GC Test Mode

Procedure :

1. When the power ON, press the I/⏻ button (TA) while pressing the TUNING MODE button (ST) and PLAY MODE buttons (CDP) together.
2. LCD are all turned on.
3. Press TUNING MODE button (ST) to enter the model destination indecation mode. "SP55 CE2" or "SP55 ASIA2" appears.
4. Every pressing of TUNING MODE button (ST) changes the display in the following order.
   MC Version → CD Version → ST Version → TC Version → TA Version → TM Version → model destination display.
5. Press DISPLAY button (ST) and the date appears as " 00615a "
   Every pressing of DISPLAY button (ST) changes the display in the Version display and model destination display.
6. Press TUNER/BAND button (ST) to enter the key check mode.
7. In the key check mode, the fluorescent indicator tube displays "Key 0 Vol 0". Each time a button is pressed, "Key" value increases. However, once a button is pressed, it is no longer taken into account.
   "Vol" Value increases like "1, 2, 3 ..." if rotating VOLUME knob (TA) in the clockwise direction, or decreases like "0, 9, 8 ..." if rotating in the counterclockwise diretion.
8. To exit from this mode, disconnect the power cord.

SECTION 2
GENERAL

1 (Remote sensor)
2 Display window
3 TUNING +/– button
4 TUNER/BAND button
5 TUNING MODE button
6 DISPLAY button

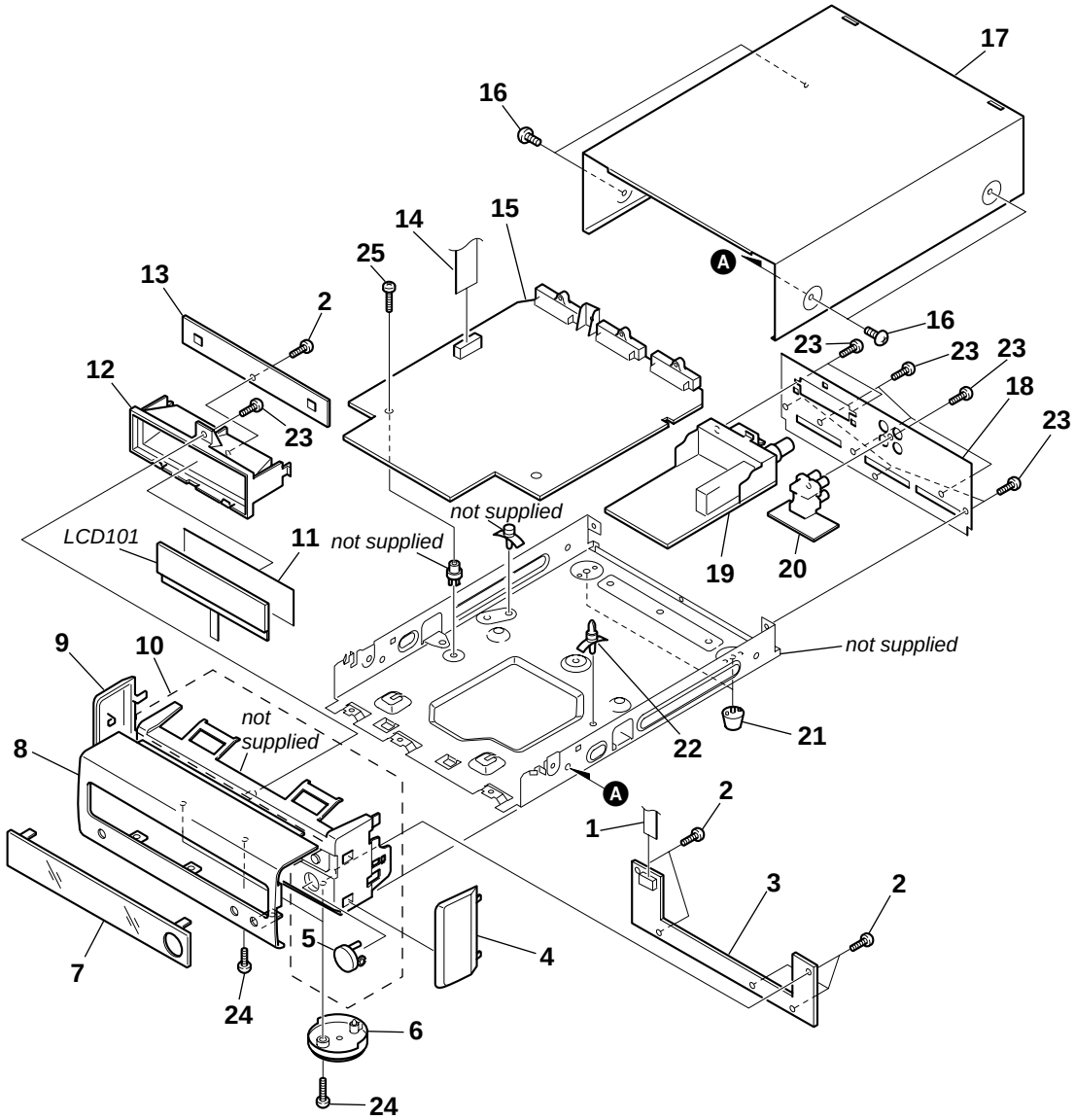
SECTION 4
EXPLODED VIEW

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  AED : North European model
  MY : Malasia model
  SP : Singapore model
  HK : Hong Kong model
  KR : Korea model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

4-1. CASE AND FRONT PANEL



Ref. No.	Part No.	Description	Remarks
1	1-769-916-11	WIRE (FLAT TYPE) (9 CORE)	
2	4-951-620-01	SCREW (2.6X8), +BVTP	
3	1-678-671-11	PANEL BOARD	
4	4-229-683-01	PLATE (R), SIDE	
5	4-229-678-01	BUTTON (U/D)	
6	X-4953-027-1	FOOT ASSY	
7	4-229-677-01	WINDOW (LCD)	
8	4-229-676-01	PANEL (ST), FRONT (AEP,UK,AED)	
8	4-229-676-11	PANEL (ST), FRONT (HK,MY,SP,KR)	
9	4-229-684-01	PLATE (L), SIDE	
10	X-4953-022-1	PANEL ASSY (ST), SUB	
11	4-229-680-01	ILLUMINATOR	
12	4-229-679-01	HOLDER, LCD	
13	1-678-672-11	LED BOARD	
14	1-769-970-11	WIRE (FLAT TYPE) (13 CORE) (HK,MY,SP,KR)	
14	1-773-002-11	WIRE (FLAT TYPE) (15 CORE) (AEP,UK,AED)	

Ref. No.	Part No.	Description	Remarks
15	A-4424-804-A	MAIN BOARD, COMPLETE (AEP,UK,AED)	
15	A-4473-725-A	MAIN BOARD, COMPLETE (HK,MY,SP,KR)	
16	3-363-099-51	SCREW (CASE 3 TP2)	
17	4-229-687-11	CASE	
18	4-229-686-01	PANEL, BACK (AEP,UK,AED)	
18	4-229-686-21	PANEL, BACK (HK,MY,SP)	
18	4-229-686-31	PANEL, BACK (KR)	
19	1-693-482-11	TUNER (FM/AM) (HK,MY,SP,KR)	
19	1-693-499-11	TUNER (FM/AM) (AEP,UK,AED)	
20	1-678-673-11	PIN JACK BOARD	
21	4-965-822-01	FOOT	
22	4-924-098-11	HOLDER, PC BOARD	
23	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
24	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
25	7-685-650-79	SCREW +BVTP 3X16 TYPE2 N-S	
LCD101	1-804-056-11	DISPLAY PANEL, LIQUID CRYSTAL	

SECTION 5
ELECTRICAL PARTS LIST

LED **MAIN**

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  AED : North European model
  MY : Malasia model
  SP : Songapore model
  HK : Hong Kong model
  KR : Korea model

Ref. No.	Part No.	Description				Remarks
	1-678-672-11	LED BOARD				
		********				
		< CAPACITOR >				
C950	1-161-494-00	CERAMIC	0.022uF			25V
		< DIODE >				
D950	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D951	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D952	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D953	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D954	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D955	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D956	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
D957	8-719-080-67	DIODE SELU6714C-TP6 (LED BACK LIGHT)				
		< RESISTOR >				
R950	1-249-406-11	CARBON	120	5%	1/4W	F
R951	1-249-406-11	CARBON	120	5%	1/4W	F
R952	1-249-406-11	CARBON	120	5%	1/4W	F
R953	1-249-406-11	CARBON	120	5%	1/4W	F
**********						
	A-4424-804-A	MAIN BOARD, COMPLETE (AEP,UK,AED)				
		********				
	A-4473-725-A	MAIN BOARD, COMPLETE (HK,MY,SP,KR)				
		********				
		< CAPACITOR >				
C201	1-128-832-11	ELECT	220uF	20%	10V	
C202	1-128-832-11	ELECT	220uF	20%	10V	
C203	1-161-494-00	CERAMIC	0.022uF		25V	
C204	1-128-832-11	ELECT	220uF	20%	10V	
C205	1-161-494-00	CERAMIC	0.022uF		25V	
C206	1-161-494-00	CERAMIC	0.022uF		25V	
C207	1-119-824-11	ELECT MELF	10uF	20%	50V	
C211	1-119-824-11	ELECT MELF	10uF	20%	50V	
C212	1-119-824-11	ELECT MELF	10uF	20%	50V	
C213	1-119-823-11	ELECT	4.7uF	20%	50V	
C214	1-119-824-11	ELECT MELF	10uF	20%	50V	
C215	1-128-858-91	ELECT	22uF	20%	25V	
C216	1-119-821-11	ELECT MELF	2.2uF	20%	50V	
C217	1-130-476-00	MYLAR	0.0027uF	5%	50V	
C218	1-136-177-00	MYLAR	1uF	5%	50V	

Ref. No.	Part No.	Description			Remarks
C219	1-136-177-00	MYLAR	1uF	5%	50V
C220	1-119-820-11	ELECT	1uF	20%	50V
C221	1-162-288-31	CERAMIC	330uF	10%	50V
C225	1-162-282-31	CERAMIC	100PF	10%	50V
C227	1-162-288-31	CERAMIC	330uF	10%	50V
C228	1-162-294-31	CERAMIC	0.001uF	10%	50V
C231	1-161-494-00	CERAMIC	0.022uF		25V
C232	1-161-494-00	CERAMIC	0.022uF		25V
C261	1-119-824-11	ELECT MELF	10uF	20%	50V
C262	1-119-824-11	ELECT MELF	10uF	20%	50V
C263	1-119-823-11	ELECT	4.7uF	20%	50V
C264	1-119-824-11	ELECT MELF	10uF	20%	50V
C265	1-128-858-91	ELECT	22uF	20%	25V
C266	1-119-821-11	ELECT MELF	2.2uF	20%	50V
C267	1-130-476-00	MYLAR	0.0027uF	5%	50V
C268	1-136-177-00	MYLAR	1uF	5%	50V
C269	1-136-177-00	MYLAR	1uF	5%	50V
C270	1-119-820-11	ELECT	1uF	20%	50V
C275	1-162-282-31	CERAMIC	100PF	10%	50V
C278	1-162-294-31	CERAMIC	0.001uF	10%	50V
C281	1-128-547-11	ELECT	6800uF	20%	16V
C282	1-126-936-11	ELECT	3300uF	20%	16V
C283	1-161-494-00	CERAMIC	0.022uF		25V
C284	1-161-494-00	CERAMIC	0.022uF		25V
C285	1-161-494-00	CERAMIC	0.022uF		25V
C287	1-126-933-11	ELECT	100uF	20%	16V
C288	1-126-934-11	ELECT	220uF	20%	10V
C289	1-126-934-11	ELECT	220uF	20%	10V
C290	1-126-916-11	ELECT	1000uF	20%	6.3V
C291	1-104-665-11	ELECT	100uF	20%	25V
C292	1-104-665-11	ELECT	100uF	20%	25V
C293	1-126-933-11	ELECT	100uF	20%	16V
C294	1-126-934-11	ELECT	220uF	20%	16V
C301	1-126-933-11	ELECT	100uF	20%	16V
C302	1-126-934-11	ELECT	220uF	20%	16V
C701	1-161-494-00	CERAMIC	0.022uF		25V
C702	1-161-494-00	CERAMIC	0.022uF		25V
C703	1-161-494-00	CERAMIC	0.022uF		25V
C704	1-162-205-31	CERAMIC	18PF	5%	50V
C705	1-162-205-31	CERAMIC	18PF	5%	50V
C706	1-126-934-11	ELECT	220uF	20%	10V
C707	1-161-494-00	CERAMIC	0.022uF		25V
C708	1-164-159-11	CERAMIC	0.1uF		50V
C709	1-164-159-11	CERAMIC	0.1uF		50V
C731	1-125-507-11	CAPACITOR	0.22F		5.5V

MAIN

Ref. No.	Part No.	Description			Remarks
C732	1-126-925-11	ELECT	470uF	20%	10V
C733	1-104-664-11	ELECT	47uF	20%	16V
C734	1-104-664-11	ELECT	47uF	20%	16V
C735	1-164-159-11	CERAMIC	0.1uF		50V
C736	1-164-159-11	CERAMIC	0.1uF		50V
C737	1-164-159-11	CERAMIC	0.1uF		50V
C741	1-162-282-31	CERAMIC	100PF	10%	50V
C742	1-162-282-31	CERAMIC	100PF	10%	50V
C743	1-162-282-31	CERAMIC	100PF	10%	50V
C761	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN201	1-569-624-11	SOCKET, CONNECTOR 17P			
CN203	1-793-351-21	SOCKET, CONNECTOR 19P			
CN205	1-794-498-11	SOCKET, CONNECTOR 20P			
* CN208	1-568-954-11	PIN, CONNECTOR 5P			
CN211	1-784-776-11	CONNECTOR, FFC 15P (AEP,UK,AED)			
CN211	1-784-774-11	CONNECTOR, FFC 13P (HK,MY,SP,KR)			
CN212	1-568-828-11	CONNECTOR, FFC 9P			
CN701	1-568-951-11	PIN, CONNECTOR 2P			
* CN702	1-564-512-11	PLUG, CONNECTOR 9P			
		< DIODE >			
D201	8-719-911-19	DIODE 1SS133T-72			
D282	8-719-911-19	DIODE 1SS133T-72			
D283	8-719-911-19	DIODE 1SS133T-72			
D291	8-719-921-80	DIODE MTZJ-T-72-11B			
D301	8-719-947-48	DIODE MTZJ-T-72-11A			
D701	8-719-024-99	DIODE 11ES2-NTA2B			
D702	8-719-024-99	DIODE 11ES2-NTA2B			
D731	8-719-911-19	DIODE 1SS133T-72			
D733	8-719-911-19	DIODE 1SS133T-72			
		< IC >			
IC202	8-759-000-48	IC MC14052BCP			
IC231	8-759-705-58	IC NJM4558D-D			
IC281	8-759-373-82	IC TA7807SB			
IC282	8-759-373-94	IC TA79007SB			
IC283	8-759-373-79	IC TA7805SB			
IC401	8-759-669-03	IC LC75342			
IC701	8-759-681-71	IC M30620MCA-A67FP			
IC702	8-759-635-63	IC M51943BSL-TP			
		< TRANSISTOR >			
Q201	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q221	8-729-141-30	TRANSISTOR 2SC3623ATP-LK			
Q271	8-729-141-30	TRANSISTOR 2SC3623ATP-LK			
Q281	8-729-040-20	TRANSISTOR RT1P137L-TP			
Q282	8-729-900-80	TRANSISTOR BA1A4M-TP			
Q291	8-729-026-68	TRANSISTOR 2SD2525(TP)			
Q301	8-729-026-68	TRANSISTOR 2SD2525(TP)			
Q701	8-729-049-80	TRANSISTOR RTIN137S-TP			
Q702	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q704	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q705	8-729-422-57	TRANSISTOR BN1A4M-TP			
Q706	8-729-049-80	TRANSISTOR RTIN137S-TP			
Q731	8-729-620-05	TRANSISTOR 2SC2603TP-EF			
		< RESISTOR >			
R201	1-247-887-00	CARBON	220K	5%	1/4W
R211	1-249-425-11	CARBON	4.7K	5%	1/4W F
R212	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R213	1-249-418-11	CARBON	1.2K	5%	1/4W F
R214	1-249-429-11	CARBON	10K	5%	1/4W
R215	1-249-421-11	CARBON	2.2K	5%	1/4W F
R216	1-249-429-11	CARBON	10K	5%	1/4W
R217	1-249-417-11	CARBON	1K	5%	1/4W F
R218	1-247-843-11	CARBON	3.3K	5%	1/4W
R219	1-249-393-11	CARBON	10	5%	1/4W F
R221	1-249-421-11	CARBON	2.2K	5%	1/4W F
R222	1-249-429-11	CARBON	10K	5%	1/4W
R223	1-249-429-11	CARBON	10K	5%	1/4W
R224	1-249-413-11	CARBON	470	5%	1/4W F
R225	1-249-441-11	CARBON	100K	5%	1/4W
R226	1-249-421-11	CARBON	2.2K	5%	1/4W F
R227	1-249-417-11	CARBON	1K	5%	1/4W F
R230	1-247-836-11	CARBON	1.6K	5%	1/4W
R231	1-249-437-11	CARBON	47K	5%	1/4W
R232	1-249-437-11	CARBON	47K	5%	1/4W
R261	1-249-425-11	CARBON	4.7K	5%	1/4W F
R262	1-249-429-11	CARBON	10K	5%	1/4W
R263	1-249-418-11	CARBON	1.2K	5%	1/4W F
R264	1-249-429-11	CARBON	10K	5%	1/4W
R265	1-249-421-11	CARBON	2.2K	5%	1/4W F
R266	1-249-429-11	CARBON	10K	5%	1/4W
R267	1-249-417-11	CARBON	1K	5%	1/4W F
R268	1-247-843-11	CARBON	3.3K	5%	1/4W
R269	1-249-393-11	CARBON	10	5%	1/4W F
R271	1-249-421-11	CARBON	2.2K	5%	1/4W F
R272	1-249-429-11	CARBON	10K	5%	1/4W
R273	1-249-429-11	CARBON	10K	5%	1/4W
R274	1-249-413-11	CARBON	470	5%	1/4W F
R275	1-249-441-11	CARBON	100K	5%	1/4W
R276	1-249-421-11	CARBON	2.2K	5%	1/4W F
R277	1-249-417-11	CARBON	1K	5%	1/4W F
R280	1-247-836-11	CARBON	1.6K	5%	1/4W
R291	1-249-417-11	CARBON	1K	5%	1/4W F
R292	1-249-417-11	CARBON	1K	5%	1/4W F
R301	1-247-843-11	CARBON	3.3K	5%	1/4W F
R401	1-247-807-31	CARBON	100	5%	1/4W
R402	1-247-807-31	CARBON	100	5%	1/4W
R403	1-247-807-31	CARBON	100	5%	1/4W
R702	1-247-891-00	CARBON	330K	5%	1/4W
R703	1-249-425-11	CARBON	4.7K	5%	1/4W F
R704	1-249-425-11	CARBON	4.7K	5%	1/4W F
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-429-11	CARBON	10K	5%	1/4W
R707	1-249-435-11	CARBON	33K	5%	1/4W
R708	1-249-435-11	CARBON	33K	5%	1/4W
R709	1-249-435-11	CARBON	33K	5%	1/4W
R710	1-249-435-11	CARBON	33K	5%	1/4W
R711	1-249-429-11	CARBON	10K	5%	1/4W
R712	1-249-429-11	CARBON	10K	5%	1/4W
R713	1-249-416-11	CARBON	820	5%	1/4W F (AEP,UK,AED)
R713	1-249-426-11	CARBON	5.6K	5%	1/4W (HK,MY,SP,KR)
R714	1-249-412-11	CARBON	390	5%	1/4W F (HK,MY,SP,KR)
R714	1-249-426-11	CARBON	5.6K	5%	1/4W (AEP,UK,AED)
R715	1-249-429-11	CARBON	10K	5%	1/4W
R716	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R717	1-249-429-11	CARBON	10K	5%	1/4W
R718	1-249-429-11	CARBON	10K	5%	1/4W
R719	1-247-807-31	CARBON	100	5%	1/4W
R720	1-249-429-11	CARBON	10K	5%	1/4W
R721	1-249-429-11	CARBON	10K	5%	1/4W
R722	1-249-417-11	CARBON	1K	5%	1/4W F
R723	1-249-417-11	CARBON	1K	5%	1/4W F
R724	1-249-429-11	CARBON	10K	5%	1/4W
R725	1-249-441-11	CARBON	100K	5%	1/4W
R731	1-247-807-31	CARBON	100	5%	1/4W
R732	1-249-417-11	CARBON	1K	5%	1/4W F
R733	1-249-425-11	CARBON	4.7K	5%	1/4W F
R734	1-249-437-11	CARBON	47K	5%	1/4W
R735	1-249-437-11	CARBON	47K	5%	1/4W
R736	1-249-429-11	CARBON	10K	5%	1/4W
R737	1-249-429-11	CARBON	10K	5%	1/4W
R741	1-247-807-31	CARBON	100	5%	1/4W
R742	1-247-807-31	CARBON	100	5%	1/4W
R743	1-247-807-31	CARBON	100	5%	1/4W
R751	1-247-807-31	CARBON	100	5%	1/4W
R754	1-247-807-31	CARBON	100	5%	1/4W
R755	1-247-807-31	CARBON	100	5%	1/4W
R757	1-247-807-31	CARBON	100	5%	1/4W
R758	1-247-807-31	CARBON	100	5%	1/4W
R759	1-247-807-31	CARBON	100	5%	1/4W
R760	1-247-807-31	CARBON	100	5%	1/4W
R761	1-247-807-31	CARBON	100	5%	1/4W
R762	1-247-807-31	CARBON	100	5%	1/4W
R764	1-247-807-31	CARBON	100	5%	1/4W
R765	1-247-807-31	CARBON	100	5%	1/4W
R766	1-247-807-31	CARBON	100	5%	1/4W
R767	1-247-807-31	CARBON	100	5%	1/4W
R768	1-247-807-31	CARBON	100	5%	1/4W
R769	1-247-807-31	CARBON	100	5%	1/4W
R770	1-247-807-31	CARBON	100	5%	1/4W
R771	1-247-807-31	CARBON	100	5%	1/4W
R772	1-247-807-31	CARBON	100	5%	1/4W
R773	1-247-807-31	CARBON	100	5%	1/4W
R774	1-247-807-31	CARBON	100	5%	1/4W
R775	1-247-807-31	CARBON	100	5%	1/4W
R776	1-247-807-31	CARBON	100	5%	1/4W
R777	1-247-807-31	CARBON	100	5%	1/4W
R778	1-249-401-11	CARBON	47	5%	1/4W F
R779	1-249-401-11	CARBON	47	5%	1/4W F
		< VIBRATOR >			
X701	1-579-175-11	VIBRATOR, CERAMIC (10MHz)			
X702	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)			
**********					
	1-678-671-11	PANEL BOARD			
		**********			
		< CAPACITOR >			
C901	1-124-584-00	ELECT	100uF	20%	10V
C902	1-161-494-00	CERAMIC	0.022uF		25V
C903	1-161-494-00	CERAMIC	0.022uF		25V
C904	1-162-290-31	CERAMIC	470PF	10%	50V
C905	1-162-290-31	CERAMIC	470PF	10%	50V
C906	1-162-290-31	CERAMIC	470PF	10%	50V

Ref. No.	Part No.	Description			Remarks
		< CONNECTOR >			
CN901	1-784-731-11	CONNECTOR, FFC 9P			
CN902	1-580-471-11	SOCKET, CONNECTOR 6P			
		< IC >			
IC901	8-749-016-97	IC NJL62H400A (REMOTE SENSOR)			
		< RESISTOR >			
R901	1-247-807-31	CARBON	100	5%	1/4W
R902	1-247-807-31	CARBON	100	5%	1/4W
R903	1-247-807-31	CARBON	100	5%	1/4W
R904	1-247-854-11	CARBON	9.1K	5%	1/4W
R905	1-249-417-11	CARBON	1K	5%	1/4W F
R906	1-247-807-31	CARBON	100	5%	1/4W
R907	1-249-401-11	CARBON	47	5%	1/4W F
R921	1-249-425-11	CARBON	4.7K	5%	1/4W F
R922	1-249-427-11	CARBON	6.8K	5%	1/4W F
R923	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S910	1-771-410-21	SWITCH, TACTILE (DISPLAY)			
S920	1-771-410-21	SWITCH, TACTILE (TUNING MODE)			
S921	1-771-410-21	SWITCH, TACTILE (TUNER/BAND)			
S922	1-771-410-21	SWITCH, TACTILE (-TUNING)			
S923	1-771-410-21	SWITCH, TACTILE (+TUNING)			
**********					
	1-678-673-11	PIN JACK BOARD			
		**********			
		< CAPACITOR >			
C226	1-162-292-31	CERAMIC	680PF	10%	50V
C227	1-162-292-31	CERAMIC	680PF	10%	50V
C276	1-162-292-31	CERAMIC	680PF	10%	50V
C277	1-162-292-31	CERAMIC	680PF	10%	50V
C295	1-164-159-11	CERAMIC	0.1uF		50V
		< JACK >			
J210	1-695-188-31	JACK, PIN 4P (AUX IN/OUT)			
**********					
		MISCELLANEOUS			
		**********			
1	1-769-916-11	WIRE (FLAT TYPE) (9 CORE)			
14	1-769-970-11	WIRE (FLAT TYPE) (13 CORE) (HK,MY,SP,KR)			
14	1-773-002-11	WIRE (FLAT TYPE) (15 CORE) (AEP,UK,AED)			
19	1-693-482-11	TUNER (FM/AM) (HK,MY,SP,KR)			
19	1-693-499-11	TUNER (FM/AM) (AEP,UK,AED)			
LCD101	1-804-056-11	DISPLAY PANEL, LIQUID CRYSTAL			

9-929-536-11

Sony Corporation
Audio Entertainment Group

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SS-CSP55

SERVICE MANUAL

AEP Model
UK Model
E Model

This set is the speaker system
in CMT-SP55MD/SP55TC.

SPECIFICATIONS

Speaker system :	2-way, bass-reflex type
Speaker units	
Woofer:	12 cm dia., glass-fiber cone type
Tweeter:	2.5 cm dia., soft dome type
Nominal impedance	8 ohms
Dimensions (w/h/d) incl. projecting parts and controls	Approx. 170 x 275 x230 mm
Mass :	Approx. 3.4 kg net per speaker
Supplied accessories	Speaker cords (2)

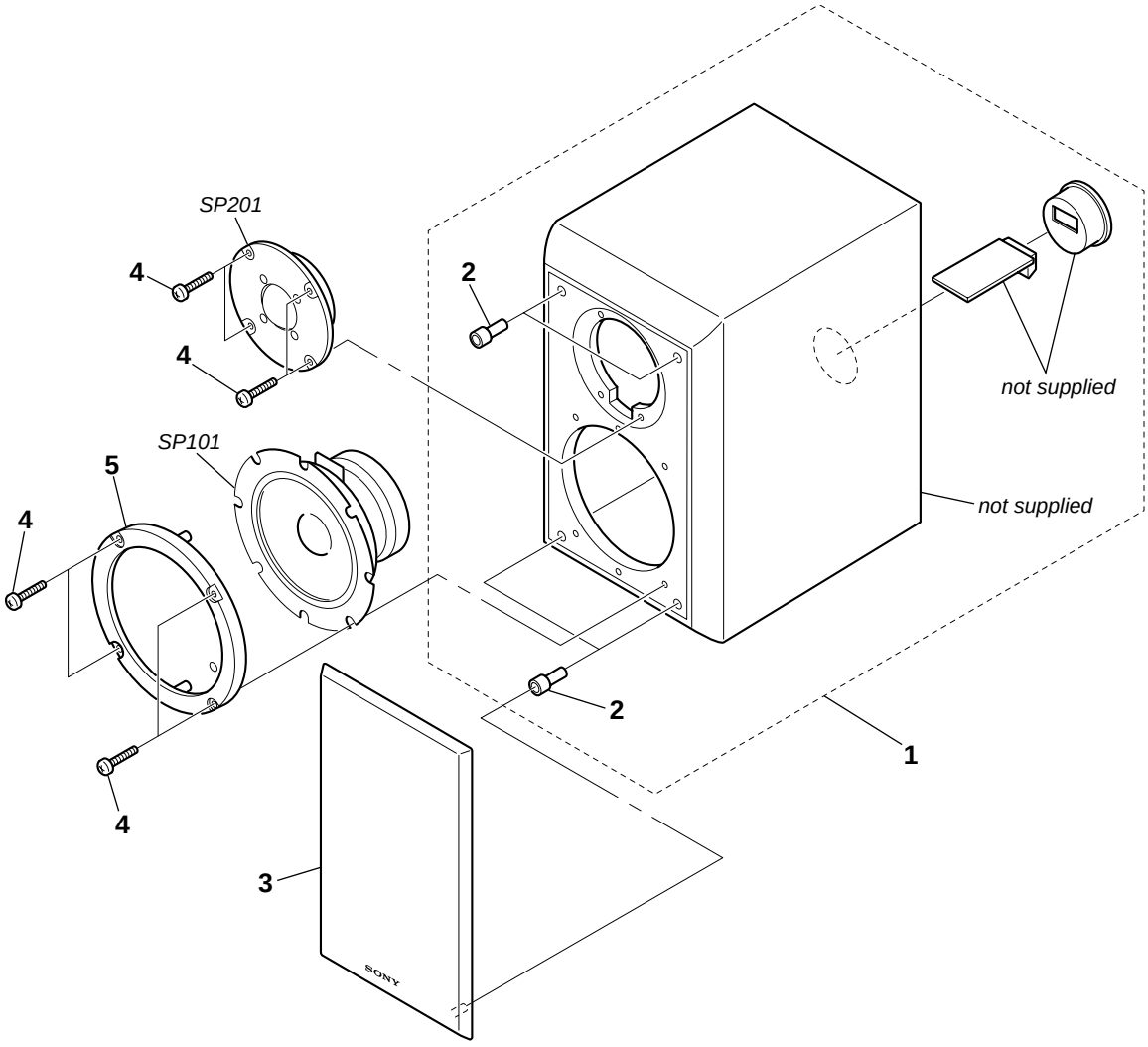
Design and specification are subject to change without notice.

SPEAKER SYSTEM

SONY

EXPLODED VIEW AND PARTS LIST

NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.



Ref. No.	Part No.	Description	Remark
1	A-4412-254-A	CABINET ASSY, SPEAKER	
2	4-963-075-21	CATCHER	
3	A-4412-224-A	FRAME ASSY, GRILLE	
4	4-874-614-51	SCREW (4) (3.5X20), TAPPING	
5	4-228-872-01	RING. ORNAMENTAL	
SP101	1-529-748-11	SPEAKER (12 cm)	
SP201	1-529-749-11	SPEAKER (2.5 cm)	

****

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-757-422-11	CORD SPEAKER (1.5 m)	